

Material Safety Data Sheet

N,N,N',N'-Tetramethylethylenediamine, 99%

ACC# 95731

Section 1 - Chemical Product and Company Identification

MSDS Name: N,N,N',N'-Tetramethylethylenediamine, 99%

Catalog Numbers: AC138450000, AC138450500, AC138455000, NC9241640, XXAC13845-1LI

Synonyms: 1,2-Bis(dimethylamino)ethane; N,N,N',N'-Tetramethyl-1,2-diaminoethane; TEMED; TMEDA; 1,2-Di(dimethylamino)ethane.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
110-18-9	1,2-Bis(dimethylamino)ethane	>99	203-744-6

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid.

Danger! Causes eye and skin burns. Causes severe digestive and respiratory tract burns. **Flammable liquid and vapor.** Harmful if inhaled or swallowed. May be absorbed through intact skin.

Target Organs: Eyes, skin, mucous membranes.

Potential Health Effects

Eye: Contact with eyes may cause severe irritation, and possible eye burns. May cause eye injury. Exposure may cause corneal edema and

Skin: May be absorbed through the skin. May cause severe irritation and possible burns.

Ingestion: May cause severe digestive tract irritation with abdominal pain, nausea, vomiting and diarrhea. May be harmful if swallowed.

Inhalation: May cause respiratory tract irritation. Irritation may lead to chemical pneumonitis and pulmonary edema.

Chronic: Prolonged or repeated skin contact may cause dermatitis.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors can travel to a source of ignition and flash back. Combustion generates toxic fumes. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint.

Extinguishing Media: For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.

Flash Point: 18-21 deg C

Autoignition Temperature: Not available.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 3; Instability:

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not ingest or inhale. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Keep away from heat, sparks and flame.

Storage: Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
1,2-Bis(dimethylamino)ethane	none listed	none listed	none listed

OSHA Vacated PELs: 1,2-Bis(dimethylamino)ethane: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

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.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear, colorless

Odor: Not available.

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: 4.00

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 120-122 deg C

Freezing/Melting Point: -55 deg C

Decomposition Temperature: Not available.

Solubility: Miscible in water

Specific Gravity/Density: 0.777 (water=1)

Molecular Formula: C₆H₁₆N₂

Molecular Weight: 116.21

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: High temperatures, ignition sources.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 110-18-9: KV7175000

LD50/LC50:

CAS# 110-18-9:

Draize test, rabbit, eye: 750 ug Severe;

Inhalation, rat: LC50 = 1318 ppm/4H;

Oral, mouse: LD50 = 630 mg/kg;

Oral, rat: LD50 = 268 mg/kg;

Skin, rabbit: LD50 = 5390 mg/kg;

Carcinogenicity:

CAS# 110-18-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: Edema of the epithelium of the cornea, generally without pain, has been produced by amine vapors, causing colored haloes to be seen around lights, usually in the evening, after industrial exposure to the vapors of various amines.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Neurotoxicity: No information available.

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.	1,2-DI-(DIMETHYLAMINO)ETHANE
Hazard Class:	3	3
UN Number:	UN3286	UN2372
Packing Group:	II	II
Additional Info:		FLASHPOINT 21 C

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 110-18-9 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 110-18-9: immediate, fire.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 110-18-9 can be found on the following state right to know lists: New Jersey.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

F C

Risk Phrases:

R 11 Highly flammable.

R 20/22 Harmful by inhalation and if swallowed.

R 34 Causes burns.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 110-18-9: 1

Canada - DSL/NDSL

CAS# 110-18-9 is listed on Canada's DSL List.

Canada - WHMIS

not available.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 110-18-9 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 12/12/1997

Revision #6 Date: 10/03/2005

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.