

Material Safety Data Sheet

N,N-Dimethyl-1,3-propanediamine

Section 1 - Chemical Product and Company Identification

MSDS Name: N,N-DIMETHYL-1,3-PROPANEDIAMINE
Synonyms: DIMETHYLAMINOPROPYLAMINE(DMAPA);
N,N-DIMETHYL-1, 3-PROPYLENEDIAMINE;
3-(DIMETHYLAMINO)PROPYLAMINE ;

Manufacturer/Supplier:

Tianjin Zhongxin ChemTech Co., Ltd.

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Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
109-55-7	N,N-Dimethyl-1,3-propanediamine	99.5+	203-680-9

Molecular Formula C₅H₁₆N₂

Molecular Weight 102.18

Section 3 - Hazards Identification

3.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 3), H226

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Dermal (Category 4), H312

Skin corrosion (Category 1B), H314
Skin sensitisation (Category 1), H317
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
For the full text of the H-Statements mentioned in this Section, see Section 16.

3.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

H226

Flammable liquid and vapour

H302+H312

Harmful if swallowed or in contact with skin

H314

Causes severe skin burns and eye damage.

H317

May cause an allergic skin reaction.

H335

May cause respiratory irritation.

Precautionary statement(s)

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

P304 + P340 + P310

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333 + P313

If skin irritation or rash occurs: Get medical advice/ attention.

P403 + P235

Store in a well-ventilated place. Keep cool.

Supplemental Hazard
Statements

none

Section 4 - First Aid Measures

After inhalation

If inhaled, remove to fresh air. If not breathing give artificial respiration.

If breathing is difficult, give oxygen.

After skin contact

In case of skin contact, flush with copious amounts of water for at least 15 minutes.

Remove contaminated clothing and shoes.

Call a physician.

After eye contact

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes.

Assure adequate flushing by separating the eyelids with fingers.

Call a physician.

After ingestion

If swallowed, wash out mouth with water provided person isn't conscious.

Call a physician immediately. Do not induce vomiting.

Section 5 - Fire Fighting Measures

Extinguishing media

Suitable: 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 risks

Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions.

Explosion Hazards: Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.

Special protective equipment for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Section 6 - Accidental Release Measures

Personal precaution procedures to be followed in case of leak or spill

Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

Procedure(s) of personal precaution(s)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for cleaning up

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

Directions for Safe Handling: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

Storage

Conditions of Storage: Keep tightly closed. Keep away from heat, sparks, and open flame.

Store under nitrogen.

Special requirements: Store under inert gas.

Section 8 - Exposure Controls, Personal Protection

Engineering controls

Safety shower and eye bath. Use nonsparking tools. Use only in a chemical fume hood.

General hygiene measures

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

Personal protective equipment

Respiratory Protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). 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.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

Special Protective Measures: Faceshield (8-inch minimum).

Section 9 - Physical and Chemical Properties

Appearance Physical State: Clear liquid

Color: Almost colorless

Property Value At Temperature or Pressure

pH 12.7 20 °C

Concentration: 100 g/l

BP/BP Range 133.0 - 137.0 °C

MP/MP Range - 70.0 °C

Flash Point 32 °C Method: closed cup

Flammability N/A

Autoignition Temp 215 °C

Oxidizing Properties N/A

Explosive Properties N/A

Explosion Limits Lower: 2.3 %

Upper: 12.35 %

Vapor Pressure 5 mmHg 20 °C

SG/Density 0.812 g/cm³

Partition Coefficient Log Kow: - 0.4

Viscosity 0.001 Pas
Vapor Density 3.6 g/l
Saturated Vapor Conc. N/A
Evaporation Rate N/A
Bulk Density N/A
Decomposition Temp. N/A
Solvent Content N/A
Water Content < 2 %
Surface Tension N/A
Conductivity N/A
Miscellaneous Data N/A
Solubility Solubility in Water: soluble
Other Solvents: ORGANIC AND OXYGENATED SOLV.

Section 10 - Stability and Reactivity

Stability

Stable: Stable.

Materials to Avoid: Strong oxidizing agents Carbon dioxide.

Hazardous decomposition products

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, and nitrogen oxides.

Hazardous polymerization

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

Acute toxicity

LC50

Inhalation Rat> 4.31 ppm 4 H

LD50

Oral Rat 1870 mg/kg

LD50

Skin Rabbit 600 UL/KG

Irritation data

Skin Rabbit 0.1 mg 24H

Remarks: Open irritation test

Eyes Rabbit 5 mg

Remarks: Moderate irritation effect

Signs and symptoms of exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not

been thoroughly investigated. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Route of exposure

Skin Contact: Causes burns.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes burns.

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

Ingestion: May be harmful if swallowed.

Section 12 - Ecological Information

Elimination

Elimination: > 70 %

Ecotoxicological effects

Test Type: LC50 Fish

Species: *Leuciscus idus*

Time: 96 h

Value: 122 mg/l

Test Type: EC50 Daphnia

Species: *Daphnia magna*

Time: 48 h

Value: 59.5 mg/l

Test Type: EC50 Algae

Species: *Scenedesmus subspicatus*

Time: 72 h

Value: 56.2 mg/l

Test Type: LC50 Bacteria

Time: 17 h

Value: 95 mg/l

Section 13 - Disposal Considerations

Substance disposal

Contact a licensed professional waste disposal service to dispose of this material. 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.

Section 14 - Transport Information

DOT (US)

UN number: 2734 Class: 8 (3) Packing group: II

Proper shipping name:

AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(DIMETHYLAMINOPROPYLAMINE)

Reportable Quantity (RQ):

Poison Inhalation Hazard: No

IMDG

UN number: 2734 Class: 8 (3) Packing group: II EMS-No: F-E, S-C

Proper shipping name:

AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(DIMETHYLAMINOPROPYLAMINE)

IATA

UN number: 2734 Class: 8 (3) Packing group: II

Proper shipping name:

AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(DIMETHYLAMINOPROPYLAMINE)

Section 15 - Regulatory Information

Classification and labeling according to eu directives

Indication of danger: C

Corrosive.

R-Phrases: 10-22-34-43

Flammable. Harmful if swallowed. Causes burns. May cause sensitization by skin contact.

S-Phrases: 26-36/37/39-45

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 the label where possible).

Country specific information

Germany

WGK: 2

Section 16 - Additional Information

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.

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