

Otto Chemie Pvt Ltd

An ISO 9001 : 2015 & GMP Certified Company
Office : No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)
Tel : + 91 98200 41841 Email : info@ottokemi.com Web : www.ottokemi.com

Creation Date: 20-08-2026

Revision Date: 18-07-2021

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Product identifiers

Product Name: Diethylenetriamine, 99%
Product Code: D 0060
CAS No: 111-40-0

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet
Company identification
OTTO CHEMIE PVT LTD
No 603, 6th Floor, Tardeo AC Market, 87, Tardeo Road,
Tardeo, Mumbai, Maharashtra 400034, India (BHARAT)

1.4. Emergency telephone number
Phone no. : + 91 98200 41841 (10 : 00 am – 06 : 00 pm)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4

Acute toxicity, Category 2

Acute toxicity, Category 4

Skin corrosion, Sub-category 1B

Serious eye damage, Category 1

Skin sensitisation, Sub-category 1B

Specific target organ toxicity -

single exposure, Category 3,

Respiratory system

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

Signal word

Hazard statements

H302: Harmful if swallowed.

H330: Fatal if inhaled.

H312: Harmful in contact with skin.

H314: Causes severe skin burns and eye damage.

H318: Causes serious eye damage.

H317: May cause an allergic skin reaction.

H335: May cause respiratory irritation.

: Danger

: 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.

H330 Fatal if inhaled.

H335 May cause respiratory irritation.

Precautionary
statements

Prevention:

P260 Do not breathe mist or vapours.

P280 Wear protective gloves/ protective clothing/
eye protection/ face protection.

Response:

P301 + P312 IF SWALLOWED: Call a POISON CENTER/
doctor if you feel unwell.

P303 + P361 + P353 IF ON SKIN (or hair): Take off
immediately all contaminated clothing.

Rinse skin with water.

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.

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Reduced Labelling (<= 125 ml)

Hazard pictograms

Signal word

Hazard Statements

H330

H317

H314

Precautionary Statements

P260

P280

P303 + P361 + P353

P304 + P340 + P310

P305 + P351 + P338

:
Danger

Fatal if inhaled.

May cause an allergic skin reaction.

Causes severe skin burns and eye damage.

Do not breathe mist or vapours.

Wear protective gloves/ protective clothing/ eye protection/ face protection.

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

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

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

none

Supplemental Hazard Statements

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

EC-No. : 203-865-4

Components

Chemical name	CAS-No. EC-No.	Concentration (%) w/w)	M-Factor, SCL, ATE
2,2'-iminodiethylamine	111-40-0 203-865-4	>= 90 - <= 100	Acute toxicity estimate Acute inhalation toxicity (vapour): 0,51 mg/l

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : First aiders need to protect themselves.

Show this safety data sheet to the doctor in attendance.

If inhaled : After inhalation: fresh air. Immediately call in physician.

If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact : In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

Call a physician immediately.

In case of eye contact : After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

Remove contact lenses.

If swallowed : After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation).

Call a physician immediately.

Do not attempt to neutralise.

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4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂)

Foam

Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Specific hazards during

fire fighting

Combustible.

Fire may cause evolution of:
nitrogen oxides

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

Hazardous combustion products

Nature of decomposition products not known.

5.3 Advice for firefighters

Special protective

equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information : Suppress (knock down) gases/vapours/mists with a water spray jet.

Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Advice for non-emergency personnel:

Do not breathe vapours, aerosols.

Avoid substance contact.

Ensure adequate ventilation.

Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Environmental precautions

Do not let product enter drains.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up carefully with liquid-absorbent material (e.g.

Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal considerations see section 13.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Work under hood. Do not inhale substance/mixture.

Avoid generation of vapours/aerosols.

Hygiene measures : Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Further information on

storage conditions

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Storage class (TRGS 510) : 6.1A, Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

Further information on

storage stability

Recommended storage temperature see product label.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Tightly fitting safety goggles

Hand protection

Material : Chloroprene

Break through time : 480 min

Glove thickness : 0,65 mm

Protective index : Full contact

Manufacturer : KCL 720 Camapren®

Material : Latex gloves

Break through time : 60 min

Glove thickness : 0,6 mm

Protective index : Splash contact

Manufacturer : Lapren® (KCL 706 / Aldrich Z677558, Size M)

Remarks : This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D36124 Eichenzell, Internet: www.kcl.de).

Skin and body protection : protective clothing

Respiratory protection : required when vapours/aerosols are generated.

Our recommendations on filtering respiratory

protection are based on the following standards: DIN

EN 143, DIN 14387 and other accompanying

standards relating to the used respiratory protection system.

Recommended Filter type: Filter type ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Environmental exposure controls

Advice : Do not let product enter drains.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	: liquid
Color	: colourless
Odor	: Ammonia odor
Melting point/ range	: -35 °C
Boiling point/boiling range	: 207 °C (1.010 hPa)
Flammability	: No data available
Upper explosion limit /	: Upper explosion limit
Upper flammability limit	6,7 %(V)
Lower explosion limit /	: Lower explosion limit
Lower flammability limit	2 %(V)
Flash point	: 94 °C
	Method: closed cup
Autoignition temperature	: 358 °C
Decomposition	: No data available
temperature	
pH	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: 7,16 mm ² /s (20 °C)
Flow time	: No data available
Solubility(ies)	
Water solubility	: (20 °C)
miscible in all proportions	
Partition coefficient: noctanol/water	: No data available
Vapor pressure	: 0,2 hPa (20 °C)
Relative density	: No data available
Density	: 0,955 g/cm ³
Relative vapour density	: 3,56
	(Air = 1.0)

9.2 Other information

Explosives	: Not classified as explosive.
Oxidizing properties	: none
Burning rate	: No data available
Self-ignition	: 358 °C
1.013 hPa	
Evaporation rate	: No data available
Molecular weight	: 103,17 g/mol

SECTION 10: Stability and reactivity

10.1 Reactivity

Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Hazardous reactions : Caution! In contact with nitrites, nitrates, nitrous acid possible liberation of nitrosamines!

Violent reactions possible with: Oxidizing agents

Nitric acid

Strong acids

organic nitro compounds

10.4 Conditions to avoid

Conditions to avoid : Strong heating.

10.5 Incompatible materials

Materials to avoid : Aluminium Copper

Copper alloys

Zinc

zinc alloys

10.6 Hazardous decomposition products

In the event of fire: see section 5

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals:

Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg Inhalation LC50 Rat: > 50mg/L.

Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

SECTION 12: Ecological information

12.1 Toxicity

Components:

2,2'-iminodiethylamine:

Toxicity to fish : LC50 (Poecilia reticulata (guppy)): 1.014 mg/l

Exposure time: 96 h

LC50 (Poecilia reticulata (guppy)): 430 mg/l

End point: mortality

Exposure time: 96 h

Test Type: semi-static test

GLP: yes

Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 16 mg/l

End point: Immobilization

Exposure time: 48 h

Test Type: static test

Method: DIN 38412

Toxicity to algae/aquatic plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): 1.164 mg/l

Exposure time: 72 h

Test Type: static test

Method: OECD Test Guideline 201

GLP: yes

Toxicity to microorganisms

EC50 (Bacteria): 32,7 mg/l

Exposure time: 3 h

Test Type: static test

GLP: yes

Remarks: (ECHA)

Toxicity to fish (Chronic : NOEC: > 10 mg/l toxicity) End point: Growth inhibition

Exposure time: 28 d

Species: Gasterosteus aculeatus

Test Type: semi-static test

Method: OECD Test Guideline 210

GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

NOEC: 5,6 mg/l

End point: reproduction rate

Exposure time: 21 d

Species: Daphnia magna (Water flea)

Test Type: semi-static test

GLP: yes

Remarks: (ECHA)

12.2 Persistence and degradability

Components:

2,2'-iminodiethylamine:

Biodegradability : Test Type: aerobic

Inoculum: activated sludge Result: Readily biodegradable. Biodegradation: 87 %

Exposure time: 21 d Method: OECD Test Guideline 301D

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12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment

: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

No data available

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

14.1 UN number or ID number

ADR : UN 2079
IMDG : UN 2079
IATA : UN 2079

14.2 UN proper shipping name

ADR : DIETHYLENETRIAMINE
IMDG : DIETHYLENETRIAMINE
IATA : Diethylenetriamine

14.3 Transport hazard class(es)

Class Subsidiary risks
ADR : 8
IMDG : 8
IATA : 8

14.4 Packing group

ADR :
Packing group : II
Classification Code : C7
Hazard Identification : 80
Number :
Labels : 8
Tunnel restriction code : (E)
IMDG :
Packing group : II
Labels : 8
EmS Code : F-A, S-B
IATA (Cargo) :
Packing instruction (cargo aircraft) : 855
Packing instruction (LQ) : Y840
Packing group : II
Labels : Class 8 - Corrosive substances

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IATA_P (Passenger)
Packing instruction : 851
(passenger aircraft)
Packing instruction (LQ) : Y840
Packing group : II
Labels : Class 8 - Corrosive substances
14.5 Environmental hazards
ADR
Environmentally : no
hazardous
IMDG
Marine pollutant : no

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)
Conditions of restriction for the following entries should be considered:

Number on list 3

Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

Not applicable

Regulation (EU) No 2024/590 on substances that deplete the ozone layer

Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast)

Not applicable

REACH - List of substances subject to authorisation (Annex XIV)

Not applicable

Seveso III: Directive 2012/18/EU of the H2 ACUTE TOXIC

European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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