## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product Identifiers

Product name : Diethylenetriaminepentaacetic acid
Type of product : Chemical substance
Product grade : LR, AR/ACS, AR, Special grade
CAS No : 67-43-6

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Reagent for analysis

### 1.3. Details of the supplier of the safety data sheet

RYZE CHEMIE PRIVATE LIMITED
Gami Industrial Park, Unit.13, Second Floor, C Block,
Plot No.C-39-A, TTC Industrial area, Navi Mumbai,
Thane, Maharashtra-400705
Safety@ryzechemie.com

### 1.4. Emergency Telephone Number : +91- 99-3006-04-04

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008)**

| | |
|---|---|
| Acute toxicity, Category 4 | H332: Harmful if inhaled. |
| Eye irritation, Category 2 | H319: Causes serious eye irritation. |
| Reproductive toxicity, Category 1B | H360D: May damage the unborn child. |
| Specific target organ toxicity - repeated exposure, Category 2, Respiratory Tract | H373: May cause damage to organs through prolonged or repeated exposure if inhaled. |

## 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements :

| | |
|---|---|
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H360D | May damage the unborn child. |
| H373 | May cause damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled. |

Precautionary statements :

**Prevention:**

| | |
|---|---|
| P202 | Do not handle until all safety precautions have been read and understood. |
| P260 | Do not breathe dust. |
| P264 | Wash skin thoroughly after handling. |

**Response:**

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

### Additional Labelling

Restricted to professional users.

### Reduced Labelling (<= 125 ml)

Hazard pictograms :



Signal word Danger

Hazard Statements
H360D May damage the unborn child.

| | |
|---|---|
| Precautionary Statements | |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention. |
| Supplemental Hazard Statements | none |

### 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

Index-No. : 607-735-00-1

EC-No. : 200-652-8

**Components**

| Chemical name | CAS-No.<br>EC-No. | Concentration (% w/w) | M-Factor, SCL, ATE |
|---|---|---|---|
| N,N-bis[2-[bis(carboxymethyl)amino]ethyl]glycine | 67-43-6<br>200-652-8 | >= 90 - <= 100 | specific concentration limit Repr. 1B; H360D >= 3 %<br><br>Acute toxicity estimate<br><br>Acute inhalation toxicity (dust/mist): 1,5 mg/l |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

| | | |
|---|---|---|
| General advice | : | Show this safety data sheet to the doctor in attendance. |
| If inhaled | : | After inhalation: fresh air. Immediately call in physician.<br>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.<br>Consult a physician. |
| In case of eye contact | : | After eye contact: rinse out with plenty of water.<br>Call in ophthalmologist.<br>Remove contact lenses. |
| If swallowed | : | After swallowing: immediately make victim drink water (two glasses at most).<br>Consult a physician. |

### 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 | : | Water<br>Foam<br>Carbon dioxide (CO2)<br>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.<br><br>Vapours are heavier than air and may spread along floors.<br>Forms explosive mixtures with air on intense heating.<br>Development of hazardous combustion gases or vapours possible in the event of fire. |
| Hazardous combustion products | : | Carbon oxides<br><br>Nitrogen oxides (NOx) |

### 5.3 Advice for firefighters

| | | |
|---|---|---|
| Special protective | : | Stay in danger area only with self-contained breathing |

| | | |
|---|---|---|
| equipment for fire-fighters | | 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.<br>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:<br>Avoid inhalation of dusts.<br>Avoid substance contact.<br>Ensure adequate ventilation.<br>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.<br>Observe possible material restrictions (see sections 7 and 10).<br>Take up carefully. Dispose of properly. Clean up affected area.<br>Avoid generation of dusts. |

### 6.4 Reference to other sections

For disposal considerations see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

| | | |
|---|---|---|
| Advice on safe handling | : | Work under hood. Do not inhale substance/mixture. |
| 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. Dry. Keep in a well-ventilated place.<br>Keep locked up or in an area accessible only to qualified or authorised persons. |
| Storage class (TRGS 510) | : | 6.1C, Combustible, acute toxic Cat.3 / toxic |

compounds or compounds which causing chronic effects

### 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).<br>Safety glasses |
| Hand protection | | |
| Material | : | Nitrile rubber |
| Break through time | : | 480 min |
| Glove thickness | : | 0,11 mm |
| Protective index | : | Full contact |
| Manufacturer | : | KCL 741 Dermatril® L |
| Material | : | Nitrile rubber |
| Break through time | : | 480 min |
| Glove thickness | : | 0,11 mm |
| Protective index | : | Splash contact |
| Manufacturer | : | KCL 741 Dermatril® L |
| 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, D-36124 Eichenzell, Internet: www.kcl.de). |
| Skin and body protection | : | protective clothing |
| Respiratory protection | : | required when dusts are generated.<br><br>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 | : | Filter type P3 |

type:
The entrepeneur 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.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| Physical state | : | solid (20 °C, 1.013 hPa) |
| Form | : | powder |
| Color | : | white |
| Odor | : | odourless |
| Odor Threshold | : | Not applicable |
| Melting point/ range | : | 219 - 220 °C |
| Boiling point | : | No data available |
| Flammability | : | Method: Flammability (solids)<br>GLP: yes<br>Remarks: The product is not flammable. |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower flammability limit | : | No data available |
| Flash point | : | 200 °C<br>Method: closed cup |
| Autoignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| pH | : | 2,5 (23 °C)<br>Concentration: 10 g/l |
| Viscosity, dynamic | : | No data available |

| | | |
|---|---|---|
| Viscosity, kinematic | : | No data available |
| Flow time | : | No data available |
| Solubility(ies)<br>Water solubility | :<br>: | <br>4,8 g/l (25 °C) |
| Partition coefficient: n-octanol/water | : | log Pow: -4,91<br>Method: (calculated)<br>(Lit.)<br>Bioaccumulation is not expected. |
| Vapor pressure | : | No data available |
| Relative density | : | No data available |
| Density | : | 1,56 g/cm3 |
| Relative vapour density | : | No data available |

### 9.2 Other information

| | | |
|---|---|---|
| Explosives | : | GLP: yes |
| Oxidizing properties | : | none |
| Burning rate | : | No data available |
| Self-ignition | : | 387 - 397 °C<br>1.013 hPa<br>Method: Relative self-ignition temperature for solids<br>GLP: yes |
| Evaporation rate | : | No data available |
| Molecular weight | : | 393,35 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.
The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

### 10.2 Chemical stability

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

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Violent reactions possible with:

Strong oxidizing agents
Strong acids
Strong bases

### 10.4 Conditions to avoid

Conditions to avoid : Strong heating.

### 10.5 Incompatible materials

Materials to avoid : Strong oxidizing agents

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**
LD50 Oral - Rat - male and female - > 5.000 mg/kg
(OECD Test Guideline 401)
Remarks: (in analogy to similar compounds)
The value is given in analogy to the following substances: N,N-Bis[2-[bis(carboxymethyl)amino]ethyl]-glycine potassium salt (1:5)
LC50 Inhalation - Rat - male - 4 h - 1,5 mg/l - dust/mist

Remarks: (in analogy to similar products)
(ECHA)
The value is given in analogy to the following substances: Ethylenedinitrilotetraacetic acid disodium salt
Acute toxicity estimate Inhalation - 1,5 mg/l - dust/mist

(Acute toxicity estimate according to Regulation (EC) No. 1272/2008)
LD50 Dermal - Rat - male and female - > 2.000 mg/kg
(OECD Test Guideline 402)
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: N,N-Bis[2-[bis(carboxymethyl)amino]ethyl]-glycine potassium salt (1:5)

**Skin corrosion/irritation**
Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: Pentasodium (carboxylatomethyl)iminobis(ethylenenitrilo)tetraacetate

**Serious eye damage/eye irritation**
Remarks: Causes serious eye irritation.

(ECHA)

**Respiratory or skin sensitization**
Buehler Test - Guinea pig
Result: negative
(OECD Test Guideline 406)

**Germ cell mutagenicity**
Test Type: Ames test
Test system: S. typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Remarks: (in analogy to similar products)
Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
Remarks: (in analogy to similar products)

**Carcinogenicity**
No data available

**Reproductive toxicity**
May damage the unborn child.

**Specific target organ toxicity - single exposure**
No data available

**Specific target organ toxicity - repeated exposure**
Inhalation - May cause damage to organs through prolonged or repeated exposure.
- Respiratory Tract

**Aspiration hazard**
No data available

### 11.2 Additional Information

**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. |

Repeated dose toxicity - Rat - male and female - Oral - 4 Weeks - No observed adverse effect level - 75 mg/kg
Remarks: (in analogy to similar products)

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## SECTION 12: Ecological information

### 12.1 Toxicity

**Components:**

**N,N-bis[2-[bis(carboxymethyl)amino]ethyl]glycine:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Leuciscus idus (Golden orfe)): > 100 mg/l<br>Exposure time: 96 h<br>Test Type: flow-through test<br>Remarks: (External MSDS) |
| Toxicity to daphnia and other aquatic invertebrates | : | LC50 (Daphnia magna (Water flea)): 245 mg/l<br>End point: mortality<br>Exposure time: 48 h<br>Test Type: static test<br>Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | NOEC (Scenedesmus quadricauda (Green algae)): 400 mg/l<br>Exposure time: 23 d<br>Test Type: static test<br>Analytical monitoring: yes<br>Remarks: (in analogy to similar products)<br>(ECHA)<br>The value is given in analogy to the following substances: Ethylenedinitrilotetraacetic acid disodium saltThe value is given in analogy to the following substances: Sodium feredetate |
| Toxicity to microorganisms | : | EC50 (activated sludge): > 1.000 mg/l<br>Exposure time: 3 h<br>Test Type: static test<br>Analytical monitoring: yes<br>Method: OECD Test Guideline 209<br>GLP: yes |
| Toxicity to fish (Chronic toxicity) | : | NOEC: 100 mg/l<br>End point: reproduction rate<br>Exposure time: 28 d<br>Species: Melanotaenia fluviatilis<br>Test Type: semi-static test<br>Remarks: (ECHA) |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 67 mg/l<br>End point: reproduction rate<br>Exposure time: 18 d<br>Species: Daphnia sp. (water flea)<br>Test Type: static test<br>Method: OECD Test Guideline 211 |

## 12.2 Persistence and degradability

**Components:**

**N,N-bis[2-[bis(carboxymethyl)amino]ethyl]glycine:**

| | | |
|---|---|---|
| Biodegradability | : | Test Type: aerobic<br>Inoculum: activated sludge<br>Concentration: 54 mg/l<br>Result: Not readily biodegradable.<br>Biodegradation: 9,3 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 301F<br>GLP: yes |
| BOD/ThOD | : | 1 %<br>Remarks: (Lit.) |

## 12.3 Bioaccumulative potential

**Components:**

**N,N-bis[2-[bis(carboxymethyl)amino]ethyl]glycine:**

| | | |
|---|---|---|
| Bioaccumulation | : | Remarks: Indication of bioaccumulation. |
| Partition coefficient: n-octanol/water | : | log Pow: -4,91<br>Method: (calculated)<br>Remarks: (Lit.)<br>Bioaccumulation is not expected. |

## 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** : Not regulated as a dangerous good

**IMDG** : Not regulated as a dangerous good

**IATA_P** : Not regulated as a dangerous good

### 14.2 UN proper shipping name

**ADR** : Not regulated as a dangerous good

**IMDG** : Not regulated as a dangerous good

**IATA_P** : Not regulated as a dangerous good

### 14.3 Transport hazard class(es)

**ADR** : Not regulated as a dangerous good

**IMDG** : Not regulated as a dangerous good

**IATA_P** : Not regulated as a dangerous good

### 14.4 Packing group

**ADR** : Not regulated as a dangerous good

**IMDG** : Not regulated as a dangerous good

**IATA (Cargo)** : Not regulated as a dangerous good

**IATA_P (Passenger)** : Not regulated as a dangerous good

### 14.5 Environmental hazards

Not regulated as a dangerous good

### 14.6 Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport 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:<br>Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor. Banned and/or restricted |
| 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 European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. | | Not applicable |

### 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

## SECTION 16: Other information

### Abbreviation and Acronyms

CAS - Chemical Abstracts Service
TSCA - United States Toxic Substances Control Act Section 8(b)Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non- Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japanese Existing and New Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
WEL - Workplace Exposure Limit
TWA - Time Weighted Average
ACGIH - American Conference of Governmental Industrial Hygienists
IARC - International Agency for Research on Cancer
DNEL - Derived No Effect Level
PNEC - Predicted No Effect Concentration
RPE - Respiratory Protective Equipment
LD50 - Lethal Dose 50%
LC50 - Lethal Concentration 50%
EC50 - Effective Concentration 50%
NOEC - No Observed Effect Concentration
POW- Partition coefficient Octanol:Water
PBT - Persistent, Bioaccumulative, Toxic

vPvB - very Persistent, very Bioaccumulative
ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
MARPOL - International Convention for the Prevention of Pollution from Ships
OECD - Organization for Economic Co-operation and Development
ATE - Acute Toxicity Estimate
BCF - Bioconcentration factor
VOC - (Volatile Organic Compound)

**Disclaimer:** The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

Ryze Chemie will not be held liable for any damage resulting from handling or from contact with the above product

End of safety data sheet