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**Material Safety Data Sheet**

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<b>Product Name</b>	<b>Pentetic acid</b>
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**Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

**1.1. Product identification:****Product Description:** Pentetic acid**Synonyms:** (Carboxymethylimino)bis(ethylenetrilo)tetraacetic acid, DTPA,  
Diethylenetriaminepentaacetic acid**CAS-No:** 67-43-6**EC-No.:** 200-652-8**Molecular Formula:** C<sub>14</sub>H<sub>23</sub>N<sub>3</sub>O<sub>10</sub>**REACH Registration No:** 01-2119497281-34-XXXX**1.2. Relevant identified uses of the substance or mixture and uses advised against:****Recommended Use:** Laboratory chemicals, Manufacture of substances**1.3. Details of the supplier of the safety data sheet:**

- Company** **Finar Limited**  
184-186/P, Chacharwadi Vasna,  
Sarkhej-Bavla Highway,  
Ta.: Sanand, Dist.: Ahmedabad,  
Email: [info@finarchemicals.com](mailto:info@finarchemicals.com)  
Web: [www.finarchemicals.com](http://www.finarchemicals.com)
- E-Mail Address** [safety@finarchemicals.com](mailto:safety@finarchemicals.com); [info@finarchemicals.com](mailto:info@finarchemicals.com)

**1.4. Emergency Telephone Number:**

- For Emergency contact on: +91 - 2717 - 616 717

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**SECTION 2: HAZARDS IDENTIFICATION****2.1. Classification of the substance or mixture:****Classification according to Regulation (EC) No 1272/2008**

Acute toxicity, Inhalation (Category 4), H332

Eye irritation (Category 2), H319

Reproductive toxicity (Category 2), H361fd

Specific target organ toxicity - repeated exposure, Inhalation (Category 2), Respiratory Tract, H373

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2. Label Elements:****Labeling according to Regulation (EC) No 1272/2008****Pictogram****Signal word:**      **Warning****Hazard statement(s)**

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.

H373 May cause damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.

**Precautionary statement(s)**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.

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.

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

Supplemental Hazard Statements: None

**Reduced labelling ( $\leq 125$  ml)**

### Pictogram



**Signal word:**            **Warning**

### Hazard statement(s)

H361Df Suspected of damaging fertility. Suspected of damaging the unborn child.

### Precautionary statement(s)

P201 Obtain special instructions before use.

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.

## **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

3.1. **Substances:** Pentetic acid

3.2. **Mixtures:**

<b>Component</b>	<b>CAS-No</b>	<b>EC-No.</b>	<b>Weight %</b>
Pentetic acid	67-43-6	200-652-8	$\leq 100$

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**SECTION 4: FIRST AID MEASURES****4.1. Description of first aid measures:**

- **General advice**

If symptoms persist, call a physician.

- **If inhaled**

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

- **If Contact with skin**

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

- **In case of eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Get medical attention.

- **If swallowed**

Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

**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-** Use water, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2. Special hazards arising from the substance or mixture:**

Carbon oxides

Nitrogen oxides (NO<sub>x</sub>)

Combustible.

Vapors 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.

Risk of dust explosion.

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### 5.3. Advice 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.

### 5.4 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:

Advice for non-emergency personnel: Avoid inhalation of dusts. 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:

Do not let product enter drains.

### 6.3. Methods and material for containment and cleaning up:

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### 6.4. Reference to other sections:

For disposal see Sections 13.

## **SECTION 7: HANDLING AND STORAGE**

### 7.1. Precautions for safe handling:

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid dust formation.

Avoid ingestion and inhalation. Do not get in eyes, on skin, or on clothing.

### 7.2. Conditions for safe storage, including any incompatibilities:

Keep containers tightly closed in a dry and well-ventilated place.

### 7.3. Specific end use(s):

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

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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1. Control parameters:**

**Components with workplace control parameters**

**8.2. Exposure Controls:**

**Appropriate Engineering Controls:**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Personal Protective Equipment:**

- **Eye & Face Protection-**

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

- **Hand Protection -**

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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact-

- Material: Nitrile rubber
- Minimum layer thickness: 0.11 mm
- Break through time: 480 min
- Material tested:KCL 741 Dermatril® L

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 EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact-

- Material: Nitrile rubber
- Minimum layer thickness: 0.11 mm
- Break through time: 480 min
- Material tested:KCL 741 Dermatril® L

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- **Other Protective equipment**

Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

- **Respiratory Protection**

Required when dusts 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 P3

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**

Do not let product enter drains.

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

### 9.1. Information on basic physical and chemical properties:

- **Appearance:** White
- **Physical State:** Solid
- **Odor:** Odorless
- **Odor Threshold:** No information available
- **pH:** 2.3 at 20 g/l
- **Melting Point:** 220°C
- **Critical Temperature:** No data available
- **Vapor Pressure:** No data available
- **Vapor Density:** No data available
- **Specific Gravity:** 1.560
- **Auto-Ignition Temperature:** 387 - 397 °C at 1.013 hPa
- **Decomposition Temperature:** No data available
- **Volatility:** No data available
- **Bulk Density:** ca.625 kg/m<sup>3</sup> at 20 °C

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- **Dissociation constant:** ca.1.79 at 20 °C
- **Viscosity, dynamic:** No data available
- **Viscosity, Kinematic:** No data available
- **Water/Oil Dist. Co eff.:** No data available
- **Partition Co-efficient: n-octanol/Water:** log Pow: -4.91 - (Lit.), Bioaccumulation is not expected.
- **Ionicity (in Water):** No data available
- **Lower Explosion Limit:** No data available
- **Upper Explosion Limit:** No data available
- **Boiling Point/Range:** No data available
- **Flash Point:** 200°C
- **Water Solubility:** Soluble in water

### 9.2. Other information:

- **Molecular Formula:** C<sub>14</sub>H<sub>23</sub>N<sub>3</sub>O<sub>10</sub>
- **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:

Violent reactions possible with: Strong oxidizing agents, Strong acids, Strong bases

### 10.4. Conditions to avoid:

Strong Heating. Avoid dust formation. Incompatible products. Excess heat.

### 10.5. Incompatible materials:

Strong oxidizing agents, Strong acids, Strong bases



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**10.6. Hazardous decomposition products:**

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Ammonia.

**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

Remarks: (in analogy to similar products)(ECHA)The value is given in analogy to the following substances: Ethylenedinitrilotetraacetic acid disodium salt

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 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

**Eye irritation**

Causes serious eye irritation. (ECHA)

**Sensitisation**

Buehler Test - Guinea pig

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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**

Suspected of damaging the unborn child.

Suspected of damaging fertility.

**Teratogenicity**

No data available

**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 Further Information:**

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

RTECS: MB8205000

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

## **SECTION 12: ECOLOGICAL INFORMATION**

### **12.1. Toxicity:**

#### **Toxicity to fish**

Flow-through test LC50 - *Leuciscus idus* (Golden orfe) - > 100 mg/l - 96 h

Remarks: (External MSDS)

#### **Toxicity to daphnia and other aquatic invertebrates**

Static test LC50 - *Daphnia magna* (Water flea) - 245 mg/l - 48 h

(OECD Test Guideline 202)

#### **Toxicity to algae**

Static test NOEC - *Scenedesmus quadricauda* (Green algae) – 400 mg/l - 23 d

Remarks: (in analogy to similar products)

(ECHA)

The value is given in analogy to the following substances:

Ethylenedinitrilotetraacetic acid disodium salt

### **12.2 Persistence and degradability:**

Biodegradability aerobic - Exposure time 28 d

Result: 9.3 % - Not readily biodegradable.

(OECD Test Guideline 301F)

Ratio BOD/ThBOD - 1 %

Remarks: (Lit.)

### **12.3 Bioaccumulate potential:**

Indication of bioaccumulation.

### **12.4 Mobility in soil:**

No data available

### **12.5 Results of PBT and vPvB 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.

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**12.6 Other adverse effects:**

No data available

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods:**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14: Transport information**

	<b>Land transport (ADR/RID)</b>	<b>Air transport (IATA)</b>	<b>Sea transport (IMDG)</b>
<b>14.1 UN number</b>	-		
<b>14.2 Proper shipping name</b>	Not dangerous goods		
<b>14.3 Class</b>	-		
<b>14.4 Packing group</b>	-		
<b>14.5 Environmentally hazardous</b>	-		
<b>14.6 Special precautions for user</b>	-		
<b>14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not Relevant		

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**SECTION 15: Regulatory information**

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

**National legislation**

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

**Other regulations**

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.  
Take note of Dir 94/33/EC on the protection of young people at work.

**15.2 Chemical safety assessment:**

For this product a chemical safety assessment was not carried out

**SECTION 16: Other information**

**Full text of H-Statements referred to under sections 2 and 3.**

- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

**Training advice**

Provide adequate information, instruction and training for operators.

**References:** Not available

**Created:** 02/06/2021

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**Disclaimer:**

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