1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Ethylenediaminetetraacetic acid
Product Number: EDS
Brand: Sigma-Aldrich
Supplier: Sigma-Aldrich
   3050 Spruce Street
   SAINT LOUIS MO 63103
   USA
Telephone: +1 800-325-5832
Fax: +1 800-325-5052
Emergency Phone #: (314) 776-6555
Preparation Information: Sigma-Aldrich Corporation
   Product Safety - Americas Region
   1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview
OSHA Hazards
   Irritant

GHS Classification
   Acute toxicity, Oral (Category 5)
   Eye irritation (Category 2A)
   Acute aquatic toxicity (Category 3)

GHS Label elements, including precautionary statements

Pictogram

Signal word: Warning

Hazard statement(s)
   H303: May be harmful if swallowed.
   H319: Causes serious eye irritation.
   H402: Harmful to aquatic life.

Precautionary statement(s)
   P264: Wash skin thoroughly after handling.
   P273: Avoid release to the environment.
   P280: Wear protective gloves/ eye protection/ face protection.
   P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
   P312: Call a POISON CENTER or doctor/ physician if you feel unwell.
   P337 + P313: If eye irritation persists: Get medical advice/ attention.
   P501: Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification
   Health hazard: 2
   Flammability: 0
   Physical hazards: 0
NFPA Rating

Health hazard: 2
Fire: 0
Reactivity Hazard: 0

Potential Health Effects

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.
Skin: May be harmful if absorbed through skin. Causes skin irritation.
Eyes: Causes eye irritation.
Ingestion: May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms:
- Edathamil
- (Ethylene-dinitrilo)tetraacetic acid
- Ethylenedinitriilotetraacetic acid
- EDTA

Formula: C_{10}H_{16}N_{2}O_{8}
Molecular Weight: 292.24 g/mol

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
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<tbody>
<tr>
<td>Edetic acid</td>
<td></td>
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<tr>
<td>CAS-No.</td>
<td>60-00-4</td>
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<tr>
<td>EC-No.</td>
<td>200-449-4</td>
</tr>
<tr>
<td>Index-No.</td>
<td>607-429-00-8</td>
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4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability
Not flammable or combustible.

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust.
Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection
For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye 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).

Skin and body protection
Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form powder
Colour white

Safety data
pH 2.5 at 10 g/l at 23 °C (73 °F)
Melting point/freezing point Melting point/range: 250 °C (482 °F) - dec.
Boiling point no data available
Flash point no data available
Ignition temperature no data available
Autoignition temperature no data available
Lower explosion limit  no data available
Upper explosion limit  no data available
Vapour pressure  no data available
Density  0.860 g/cm³ at 20 °C (68 °F)
Water solubility  no data available
Partition coefficient: n-octanol/water  log Pow: -3.34
Relative vapour density  no data available
Odour  no data available
Odour Threshold  no data available
Evaporation rate  no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

 Possibility of hazardous reactions
no data available

 Conditions to avoid
no data available

 Materials to avoid
Strong oxidizing agents

 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

 Oral LD₅₀
LD₅₀ Oral - rat - 2,580 mg/kg

 Inhalation LC₅₀
no data available

 Dermal LD₅₀
no data available

 Other information on acute toxicity
no data available

 Skin corrosion/irritation
Skin - rabbit - No skin irritation

 Serious eye damage/eye irritation
Eyes - rabbit - Eye irritation

 Respiratory or skin sensitization
Will not occur

 Germ cell mutagenicity
no data available

 Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

Potential health effects

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Signs and Symptoms of Exposure

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

Synergistic effects

no data available

Additional Information

RTECS: AH4025000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish

mortality NOEC - Lepomis macrochirus - 24 mg/l - 96.0 h
LC50 - Lepomis macrochirus (Bluegill) - 34 - 62 mg/l - 96.0 h

Toxicity to daphnia and other aquatic invertebrates

EC50 - Daphnia magna (Water flea) - 113 mg/l - 48 h

Persistence and degradability

Bioaccumulative potential

Bioaccumulation Lepomis macrochirus - 28 d
Bioconcentration factor (BCF): 1.8

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

May be harmful to aquatic organisms due to the shift of the pH. Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 3077   Class: 9   Packing group: III
Proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Edetic acid)
Reportable Quantity (RQ): 5000 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
Not dangerous goods

IATA
Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards
Irritant

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard

Massachusetts Right To Know Components

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Pennsylvania Right To Know Components

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New Jersey Right To Know Components

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California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Further information
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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.