EDTA 4Na:MSDS

1. Identification:

- **Product Name:** EDTA 4Na, Tetrasodium EDTA, Ethylenediaminetetraacetic acid tetrasodium salt.
- **Synonyms:** Versene, Dissolvine NA.
- **Recommended Use:** Chelating agent, a component in cleaning products, detergents, and water treatment.

2. Hazard Identification:

- **GHS Classification:** Generally classified as harmful if swallowed or inhaled. It causes serious eye damage and may cause skin irritation.
- **Signal Word:** Danger.
- **Hazard Pictograms:**
  - **GHS07:** Exclamation mark (Harmful if swallowed/inhaled, may cause irritation).
  - **GHS05:** Corrosion (Causes severe eye damage).
  - **GHS08:** Health Hazard (May cause damage to organs through prolonged or repeated exposure).
- **Hazard Statements:**
  - H302: Harmful if swallowed.
  - H318: Causes serious eye damage.
  - H332: Harmful if inhaled.
  - H373: May cause damage to organs (e.g., respiratory tract) through prolonged or repeated inhalation exposure.

3. Composition/Information on Ingredients:

- This section details the chemical identity and concentration of the hazardous components. For a pure substance like EDTA 4Na, it would list Tetrasodium ethylenediaminetetraacetate. The CAS number is often provided here (e.g., 13235-36-4 for the tetrahydrate form).

4. First-Aid Measures:

- **Inhalation:** Remove the person to fresh air. If symptoms persist or if the person feels unwell, seek medical attention.
- **Skin Contact:** Wash thoroughly with plenty of soap and water. Remove contaminated clothing. If irritation persists, seek medical advice.
- **Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses if easy to do. Continue rinsing and seek immediate medical attention (call a poison center or doctor).
- **Ingestion:** Rinse mouth. Do not induce vomiting. Call a poison control center or doctor immediately.

5. Fire-Fighting Measures:

- **Flammability:** Non-flammable, but the dust may form a combustible dust-air mixture.
- **Extinguishing Media:** Use extinguishing measures appropriate for the surrounding fire (e.g., water spray, dry chemical, foam).
- **Specific Hazards:** Thermal decomposition can release irritating and toxic gases such as nitrous gases and carbon oxides. Firefighters should wear self-contained breathing apparatus (SCBA).

6. Accidental Release Measures:

- **Personal Precautions:** Wear appropriate personal protective equipment (PPE) to avoid dust inhalation and skin/eye contact. Ventilate the area.
- **Environmental Precautions:** Prevent the substance from entering drains, waterways, or soil.
- **Methods for Cleanup:** Collect the spilled dry material using a shovel and place it in a suitable container for disposal. Avoid generating dust.

7. Handling and Storage:

- **Handling:** Handle in a well-ventilated area. Avoid contact with skin, eyes, and clothing. Do not breathe dust. Do not eat, drink, or smoke when using the product.
- **Storage:** Store in a cool, dry, and well-ventilated place. Keep the container tightly closed. Avoid contact with incompatible materials.

Summary of Storage Requirements:

Storage Condition	Recommendation
Location	Cool, dry, well-ventilated area, away from direct sunlight and heat.
Container	Keep tightly sealed. Ensure the container is made of a compatible material (e.g., plastic).
Incompatibilities	Store away from strong oxidizers, acids, and incompatible metals (aluminum, zinc, copper, nickel, carbon steel).
Handling	Handle to minimize dust formation. Keep away from ignition sources.

8. Exposure Controls/Personal Protection:

- **Engineering Controls:** Ensure adequate ventilation, and provide local exhaust ventilation to keep dust concentrations below exposure limits. Safety showers and eyewash stations should be available.
- **Personal Protective Equipment (PPE):**

- **Respiratory Protection:** In case of insufficient ventilation or high dust levels, wear a suitable respirator.
- **Eye/Face Protection:** Wear chemical safety goggles or a face shield.
- **Skin Protection:** Wear protective gloves (e.g., nitrile rubber) and suitable protective clothing.

9. Physical and Chemical Properties:

- **Appearance:** White crystalline powder or granules.
- **Odor:** Odorless.
- **pH:** The pH of a 1% solution is typically alkaline, around 10.5-11.5.
- **Solubility:** Highly soluble in water.

10. Stability and Reactivity:

- **Chemical Stability:** Stable under normal conditions of use and storage.
- **Possibility of Hazardous Reactions:** No dangerous reactions are known under normal conditions.
- **Incompatible Materials:** Strong oxidizing agents, acids, and certain metals (e.g., aluminum, zinc).

11. Toxicological Information:

- **Acute Toxicity:** Harmful if swallowed and inhaled.
- **Serious Eye Damage/Irritation:** Causes serious, irreversible eye damage.
- **Skin Corrosion/Irritation:** Can cause skin irritation.
- **Repeated Exposure:** May cause damage to the respiratory tract with prolonged or repeated inhalation.

12. Ecological Information:

- **Ecotoxicity:** Harmful to aquatic life. Do not release into the environment. EDTA is generally not readily biodegradable.

13. Disposal Considerations:

- Dispose of the substance and its container in accordance with local, regional, and national regulations. Waste should not be released into drains or waterways.