

## Safety Data Sheet


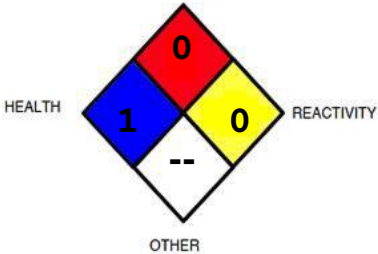
### Section 1: Product & Company Identification

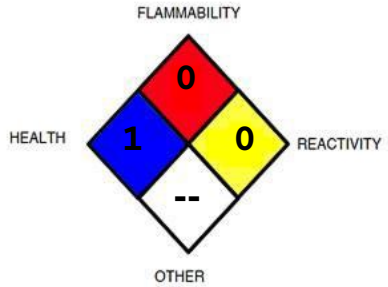
|                         |  |
|-------------------------|--|
| <b>Product Name:</b>    | EDTA Disodium Salt   |
| <b>Product #:</b>       | E-2483   |
| <b>Synonyms:</b>        | Ethylenediaminetetra-acetic acid disodium salt dihydrate   |
| <b>Supplier:</b>        | AG Scientific Holdings, LLC<br>9950 Scripps Lake Drive, Suite 104<br>San Diego, CA 92131<br>Tele# + 858-452-9925 |
| <b>Emergency Tele#:</b> | ChemTel, Tele# in USA 1-800-255-3924, International 1-813-248-0585   |

### Section 2: Composition / Information on Ingredients

| Component          | CAS #     | EC #      | % Composition |
|--------------------|-----------|-----------|---------------|
| EDTA Disodium Salt | 6381-92-6 | 205-358-3 | 99.0          |
| NTA 3Na            | 5064-31-3 | 225-768-6 | 0.1           |

### Section 3: Hazards Identification

|                            |  |
|----------------------------|--|
| <b>Symbols</b>             |   |
| <b>HMIS Classification</b> | <p style="text-align: center;">FLAMMABILITY</p>  <p style="text-align: center;">OTHER</p> |

|                            |   |
|----------------------------|---|
| <b>NFPA Classification</b> |  |
|----------------------------|---|

## Section 4: First Aid Measures

|                          |  |
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| <b>General Overview:</b> | Consult a doctor and show this safety data sheet.  |
| <b>Inhalation:</b>       | Remove to fresh air and monitor breathing. If breathing becomes difficult, give oxygen. If breathing stops, give artificial respiration. Consult a doctor.             |
| <b>Skin:</b>             | Immediately wash skin with copious amounts of soap and water for at least 15 minutes. Remove contaminated clothing and shoes and wash before reuse. Consult a doctor.  |
| <b>Eyes:</b>             | Flush with copious amounts of water for at least 15 minutes. Consult a doctor.   |
| <b>Ingestion:</b>        | Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Consult a doctor. |
|                          | See section 11 for more detailed information on health effects & symptoms.   |

## SECTION 5: Fire Fighting Measures

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|--|---|
| <b>Flammability of the product:</b>                | No data available   |
| <b>Extinguishing Media:</b>                        | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide   |
| <b>Hazardous thermal (de)composition products:</b> | Carbon oxides, nitrogen oxides (NO <sub>x</sub> ), Sodium oxides  |
| <b>Special Fire Fighting Procedures:</b>           | Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus. |
| <b>Flash Point:</b>                                | No data available   |

## Section 6: Accidental Release Measures




|                              |  |
|------------------------------|--|
| <b>Personal Precautions:</b> | Do not take action without suitable protective clothing - see section 8 of SDS. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist, dust, or gas. |
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|                                   |   |
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| <b>Environmental Precautions:</b> | Do not let product enter drains.  |
| <b>Methods for Clean-up:</b>      | Cover spillage with suitable absorbent material. Using non-spark tools, sweep up material and place in an appropriate container. Decontaminate spill site with 10% caustic solution and ventilate area until after disposal is complete. Hold all material for appropriate disposal as described under section 13 of SDS. |

## SECTION 7: Handling & Storage

|                  |   |
|------------------|---|
| <b>Storage:</b>  | Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container tightly sealed until ready for use. Store at room temperature.  |
| <b>Handling:</b> | Use in a chemical fume hood, with air supplied by an independent system. Avoid inhalation, contact with eyes, skin and clothing. Avoid the formation of dust and aerosols. Use in a well-ventilated area. Keep away from sources of ignition. Avoid prolonged or repeated exposure. |

## SECTION 8: Exposure controls / Personal Protection

|                                |  |
|--------------------------------|--|
| <b>Respiratory Protection:</b> |  <p>Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.</p>   |
| <b>Skin and Body:</b>          |   <p>Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Wear appropriate protective clothing. Complete suit protecting against chemicals, the type of protective equipment must be selected according to the</p> |

|  |   |
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|  | concentration and amount of the dangerous substance at the specific workplace.  |
| <b>Eyes:</b>                             |  <p>Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).</p>   |
| <b>Ventilation/Engineering Measures:</b> | Use in a fume hood where applicable. Ensure all engineering measures described under section 7 of SDS are in place. Ensure laboratory is equipped with a safety shower and eye wash station.  |
| <b>Hygiene:</b>                          | Handle in accordance with good industrial hygiene and safety practice.  |
| <b>Other:</b>                            | <p>EDTA Disodium Salt<br/>           DNEL/DMEL (Workers)<br/>           Acute - local effect, inhalation: 3 mg/m<sup>3</sup><br/>           Long-term - local effects, inhalation: 1.5 mg/m<sup>3</sup></p> <p>DNEL/DMEL (General population)<br/>           Acute - local effect, inhalation: 1.2 mg/m<sup>3</sup><br/>           Long-term - systemic effects, oral: 25 mg/kg<br/>           Long-term - local effects, inhalation: 0.6 mg/m<sup>3</sup></p> <p>PNEC (Water)<br/>           PNEC aqua (freshwater): 2.2 mg/L<br/>           PNEC aqua (marine water): 0.22 mg/L<br/>           PNEC aqua (intermittent, freshwater): 1.2 mg/L</p> <p>PNEC (Soil)<br/>           PNEC (Soil): 0.72 mg/kg dwt</p> <p>PNEC (STP)<br/>           PNEC sewage treatment plant: 43 mg/L</p> |

## SECTION 9: Physical and Chemical Properties

|                               |   |
|-------------------------------|---|
| <b>Appearance &amp; Odor:</b> | White, odorless   |
| <b>Formula</b>                | C <sub>10</sub> H <sub>14</sub> N <sub>2</sub> O <sub>8</sub> Na <sub>2</sub> • 2H <sub>2</sub> O |
| <b>Molecular Wt.</b>          | 372.2   |

|                           |                                |
|---------------------------|--------------------------------|
| <b>Melting Pt.</b>        | Decomposed @ 252°C             |
| <b>Boiling Pt.</b>        | No data available              |
| <b>Density:</b>           | 1.767 g/cm <sup>3</sup> @ 20°C |
| <b>Vapor Pressure:</b>    | 2E-012 hPa @ 25°C              |
| <b>Evaporation Rate:</b>  | No data available              |
| <b>Vapor Density:</b>     | No data available              |
| <b>Solubility:</b>        | Water                          |
| <b>pH:</b>                | 4 - 5                          |
| <b>Flash Point:</b>       | No data available              |
| <b>Autoignition Temp:</b> | >400°C                         |

## SECTION 10: Stability and Reactivity

|  |   |
|--|---|
| <b>Stability:</b>                        | Stable under recommended transport or storage conditions. |
| <b>Hazardous decomposition products:</b> | No data available   |
| <b>Materials to Avoid:</b>               | Strong oxidizing agents                                   |
| <b>Conditions to avoid:</b>              | No data available   |

## SECTION 11: Toxicological Information

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|--|--|
| <b>RTECS#:</b>   | N/A  |
| <b>ACUTE Toxicity:</b>   | LD50 Oral = 2,800 mg/kg bw (male/female) (Rat)<br>LOAEC Inhalation = ca. 30 mg/m <sup>3</sup> air(male) based on: act. ingr. (Na <sub>2</sub> H <sub>2</sub> EDTA) Rat)  |
| <b>CHRONIC Toxicity:</b>   | N/A  |
| <b>Chronic Exposure:</b><br><b>Carcinogen:</b><br><b>Mutagen:</b><br><b>Teratogen:</b><br><b>Reproductive:</b> | 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.<br>AGGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, potential human carcinogen by ACGIH.<br>NTP: No component of this product present at levels greater than or equal to 0.1% is identified as known or anticipated human carcinogen by NTP.<br>OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as known or potential human carcinogen by OSHA.<br>EPA: No classification on carcinogenic data is available from EPA |

## SECTION 12: Ecological Information

|                     |                    |
|---------------------|--------------------|
| <b>Ecotoxicity:</b> | EDTA Disodium Salt |
|---------------------|--------------------|

**Short-term effects on fish:**

*Lepomis macrochirus*, Freshwater, Static: The static water acute toxicity tests followed the methods described in the EPA publication, "Methods for Acute Toxicity Tests with Fish, Macroinvertebrates, and Amphibians" (COMMITTEE ON METHODS OR TOXICITY WITH AQUATIC ORGANISMS, 1975).

LC50 (96 h): 41 mg/L test mat. (nominal) based on: mortality (34-62 mg/L, very soft water)

LC50 (96 h): 159 mg/L test mat. (nominal) based on: mortality (136-204 mg/L, medium hard water)

LC50 (96 h): 532 mg/L test mat. (nominal) based on: mortality (476-598 mg/L), very hard water

LC50 (96 h): 121 mg/L act. Ingr. (Na<sub>4</sub>EDTA) (nominal) based on: mortality (113-130, very soft water)

LC50 (96 h): 792 mg/L act. Ingr. (Na<sub>4</sub>EDTA) (nominal) based on: mortality (754-831, medium hard water)

LC50 (96 h): 1,592 mg/L act. Ingr. (Na<sub>4</sub>EDTA) (nominal) based on: mortality (1,493-1,678, hard water)

LC50 (96 h): 705 mg/L test mat. (nominal) based on: mortality (623-795)

*Salmo gairdneri* (new name: *Oncorhynchus mykiss*), Freshwater, Static. Method: other fish, Acute Toxicity Test

LC100 (24 h): 860 mg/L test mat. (nominal) based on: mortality

**Long-term effects on fish:**

*Brachydanio rerio* (new name: *Dario rerio*), Freshwater

Early-life stage: reproduction, (sub)lethal effects

Flow-through

OECD Guideline 210 (Fish, Early-Life Stage Toxicity Test)

NOEC (35 d):  $\geq 25.7$  mg/L act. Ingr. (H<sub>4</sub>EDTA) (meas. (not specified))

**Short-term effects on aquatic invertebrates:**

*Daphnia magna*, Freshwater, Static

DIN 38412, part 11

EC50 (48 h): 140 mg/L test mat. (nominal) based on: morbidity (100-180 mg/L)

*Daphnia magna*, Freshwater, Static

ISO 6341 15 (Water quality – Determination of the Inhibition of the Mobility of *Daphnia magna* Straus (Cladocera, Crustacea))

EC50 (24 h): 610 mg/L test mat. (nominal) based on: mobility

*Daphnia magna*, Freshwater, Static  
Equivalent or similar to DIN 38412, part 11

EC50 (24 h): 625 mg/L test mat. (nominal) based on: mobility

**Long-term effects on aquatic invertebrates:**

*Daphnia magna*, Freshwater, Semi-static  
EEC Guideline XI/681/86, Draft 4: “Prolonged toxicity study with *Daphnia magna*: Effects on reproduction”

NOEC (21 d): 25 mg/L test mat. (nominal) based on: reproduction  
LOEC (21 d): 50 mg/L test mat. (nominal)

**Effects on algae and aquatic plants:**

*Pseudokirchnerella subcapitata* (algae), Freshwater, Static  
OECD Guideline 201 (Alga, Growth Inhibition Test) (1984)

EC50 (72 h): >100 mg/L test mat. (nominal) based on: growth rate  
EC50 (72 h): >60 mg/L test mat. (meas. (geom. mean)) based on: growth rate.  
NOEC (72 h): 79.4 mg/L test mat. (nominal) based on: growth rate  
NOEC (72 h): 48.4 mg/L test mat. (meas. (geom. mean)) based on: growth rate  
LOEC (72 h): 99.9 mg/L test mat. (nominal) based on: growth rate  
LOEC (72 h): 60.6 mg/L test mat. (meas. (geom. mean)) based on: growth rate

*Pseudokirchnerella subcapitata* (algae), Freshwater, Static  
OECD Guideline 201 (Alga, Growth Inhibition Test)

EC50 (72 h): >1,000 mg/L test mat. (nominal) based on: growth rate  
NOEC (72 h): 100 mg/L test mat. (nominal) based on: growth rate  
LOEC (72 h): 1,000 mg/L test mat. (nominal) based on: growth rate  
EC10 (72 h): 307.63 mg/L test mat. (nominal) based on: growth rate

*Scenedesmus subspicatus* (new name: *Desmodesmus subspicatus*) (algae),  
Freshwater, Static  
EU Method C.3 (Algal Inhibition test)

EC50 (72 h): >100 mg/L test mat. (nominal) based on: growth rate

|                                       |  |
|---------------------------------------|--|
|                                       | <p>NOEC (72 h): 100 mg/L test mat. (nominal) based on: growth rate<br/>         LOEC (72 h): &gt;100 mg/L test mat. (nominal) based on: growth rate<br/>         EC10 (72 h): &gt;100 mg/L test mat. (nominal) based on: growth rate</p> <p><i>Scenedesmus subspicatus</i> (new name: <i>Desmodesmus subspicatus</i>) (algae),<br/>         Freshwater, Static<br/>         EEC guideline 79/831/EEC, Annexe V, part C: Methods for the determination<br/>         of ecotoxicity, algae: Test of growth inhibition, May 1988</p> <p>EC50 (72 h): 2.77 mg/L test mat. based on: growth rate<br/>         NOEC (72 h): 0.39 mg/L test mat. based on: growth rate<br/>         LOEC (72 h): 0.78 mg/L test mat. based on: growth rate<br/>         EC10 (72 h) 0.78 mg/L test mat. based on: growth rate</p> |
| <b>Mobility:</b>                      | No data available  |
| <b>Persistence and degradability:</b> | EDTA is not readily biodegradable according to OECD criteria.  |
| <b>Bioaccumulative potential:</b>     | No data available  |
| <b>Other adverse effects:</b>         | May be harmful to the aquatic environment.   |
| <b>Corrosivity Characteristic:</b>    | No data available  |
| <b>General Notes:</b>                 | To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.   |

## SECTION 13: Disposal Considerations

|   |   |
|---|---|
| <b>Residue Waste or Unused product:</b> | Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. |
| <b>Contaminated Packaging:</b>          | Dispose of container and unused contents in accordance with federal, state and local requirements.                                    |

## SECTION 14: Transportation Information

|                            |               |
|----------------------------|---------------|
| <b>UN ID#:</b>             | N/A           |
| <b>ADR / RID (LAND):</b>   | Not regulated |
| <b>DOT regulations:</b>    | Not regulated |
| <b>IMDG/IMO (SEA):</b>     | Not regulated |
| <b>IATA/DGR (AIR):</b>     | Not regulated |
| <b>Special Provisions:</b> | N/A           |

## SECTION 15: Regulatory Information

|                        |  |
|------------------------|--|
| <b>Health Phrases:</b> | <p>Warning!</p> <p>H332 Harmful if inhaled<br/>         H373 May cause genetic defects</p> |
| <b>Risk Phrases:</b>   | P260 Do not breathe dust/fume/gas/mist/vapors/spray.                                       |



|                                  |  |
|----------------------------------|--|
|                                  | P261 Avoid breathing dust/fume/gas/mist/vapors/spray.<br>P271 Use only outdoors or in a well-ventilated area.  |
| <b>Safety Phrases:</b>           | P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.<br>P312 Call a POISON CENTER or doctor/physician if you feel unwell.<br>P314 Get medical advice/attention if you feel unwell.<br>P501 Dispose of contents/ container to an approved waste disposal plant.   |
| <b>EU Regulations:</b>           | N/A  |
| <b>US Regulations:</b>           | TSCA: Listed<br>California Proposition 65: No products were found<br>New Jersey State Right to Know: Listed<br>Pennsylvania State Right to Know: Listed<br>California State Right to Know: Listed  |
| <b>U.S. Federal Regulations:</b> | SARA 302/304 emergency planning and notification: No products were found.<br>SARA 311/312 MSDS distribution-chemical inventory-hazard identification: Acute Health Hazard<br>SARA 313 toxic chemicals notification and release reporting: No products were found.<br><br>Clean Water Act (CWA) 307: No products were found.<br>Clean Water Act (CWA) 311: No products were found.<br>Clean Air Act (CAA) 112 accidental release prevention: No products were found.<br>Clean Air Act (CAA) 112 regulated flammable substances: No products were found.<br>Clean Air Act (CAA) 112 regulated toxic substances: No products were found.<br>OSHA: Acute toxicity - inhalation (Cat. 4); Specific target organ toxicity - repeated exposure (Cat. 2) |
| <b>WHMIS (Canada):</b>           | DSL: Listed  |

## SECTION 16: Other Information

**LIABILITY STATEMENT:** *The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. AG Scientific shall not be held liable for any damages resulting from handling or from contact with the above product. AG Scientific products are for research purposes only. Not for human use or consumption.*