SECTION 1 - CHEMICAL IDENTIFICATION

PRODUCT NAME: EDTA, Disodium Salt [Ethylene Diaminetetra-Acetic Acid, Disodium Salt Dihydrate]
RPI CATALOG #: E57020
SUPPLIER'S NAME: Research Products International Corp.
SUPPLIERS ADDRESS: 410 N Business Center Drive Mount Prospect, IL 60056
EMERGENCY CONTACT: 800-424-9300
OTHER INFORMATION: 847-635-7330

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

H332	Acute toxicity, inhalation	Category 4
H373	Specific target organ toxicity - repeated exposure	Category 2

2.2 GHS Label elements, including Hazard and Precautionary Statement(s)

Pictogram

Signal word: Warning
Hazard statement(s)

H332	Harmful if inhaled
H373	May cause genetic defects

Prevention, Response, Storage and Disposal Precautionary Statement(s)

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated area.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P501	Dispose of contents/ container to an approved waste disposal plant.

SECTION 3- COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS#	EINEC#	Formula	Molecular weight	%Age
EDTA 2Na	6381-92-6	205-358-3	$C_{10}H_{14}N_2O_8Na_2$ - $2H_2O$	372.2 g/mol	99.0
NTA 3Na	5064-31-3	225-768-6	$C_6H_6NO_6Na_3$	257.0 g/mol	0.1

SECTION 4 - FIRST-AID MEASURES

4.1 Description of first aid measures
General advice: Consult a doctor and show this safety data sheet.

i. **If inhaled:** Remove to fresh air and monitor breathing. If breathing becomes difficult, give oxygen. If breathing stops, give artificial respiration. Consult a doctor.

ii. **In case of skin contact:** 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.

iii. **In case of eye contact:** Flush with copious amounts of water for at least 15 minutes. Consult a doctor.

iv. **If swallowed:** 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.

4.2 Most important symptoms and effects, both acute and delayed: To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

4.3 Indication of immediate medical attention and special treatment needed: Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

SECTION 5 - FIRE FIGHTING MEASURES

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

5.2 Special hazards arising from the substance or mixture: Carbon oxides, nitrogen oxides (NOx), Sodium oxides.

5.3 Precautions for fire-fighters: Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.

5.4 Further information: no data available

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: 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.

6.2 Environmental precautions: Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up: 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.

6.4 Reference to other sections: For required PPE see section 8. For disposal see section 13.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for safe handling:
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.

7.2 **Conditions for safe storage, including any incompatibilities:** Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container tightly sealed until ready for use. Store at room temperature.

7.3 **Specific end use(s):** Use in a laboratory fume hood where possible. Refer to employer's COSHH risk assessment.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 **Control parameters**

Components with workplace control parameters:

EDTA 2Na	
DNEL/DMEL (Workers)	
Acute - local effect, inhalation	3 mg/m³
Long-term - local effects, inhalation	1.5 mg/m³
DNEL/DMEL (General population)	
Acute - local effect, inhalation	1.2 mg/m³
Long-term - systemic effects, oral	25 mg/kg
Long-term - local effects, inhalation	0.6 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	2.2 mg/l
PNEC aqua (marine water)	0.22 mg/l
PNEC aqua (intermittent, freshwater)	1.2 mg/l
PNEC (Soil)	
PNEC (Soil)	0.72 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	43 mg/l

8.2 **Exposure Controls**

i. **Appropriate engineering controls:** 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.

ii. **Hand Protection:** PPE18 - Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.

8.3 **Personal protective equipment**

i. **Eye/face protection:** 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).

ii. **Skin protection:** 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

iii. **Body Protection:** Wear appropriate protective clothing. 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.

iv. **Respiratory Protection:** 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.

v. **Control of environmental exposure:** Do not let product enter drains

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	White	**Vapor Pressure @ 25°C**	2E-012 hPa
Odor	Odorless	**Density @ 20°C**	1.767 g/cm³
Odor Threshold	No Data Available	**Relative Density**	No Data Available
pH	4 - 5	**Water Solubility @ 20°C**	108 g/l
Melting / Freezing Point	Decomposed @ 252 °C	**Partition Coefficient**	No Data Available
Initial Boiling Point Range	No Data Available	**Auto-Ignition Temperature**	>400 °C
Flash Point	No Data Available	**Decomposition Temperature**	No Data Available
Evaporation Rate	No Data Available	**Log Pow @ 25°C**	-4.3 / pH = 4.5
Flammability (Solid, Gas)	No Data Available	**Explosive Properties**	No Data Available
Upper / Lower Flammability or Explosive Limits	No Data Available	**Oxidizing Properties**	No Data Available

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable under recommended transport or storage conditions.
Conditions to Avoid: No Data Available
Incompatible Materials: Strong oxidizing agents.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute Toxicity

LD50 Oral	LOAEC **Inhalation**
2800 mg/kg bw (male/female) (Rat)	ca. 30 mg/m³ air(male) based on: act. ingr. (Na2H2EDTA) Rat)

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:

EDTA 2Na (6381-92-6)	
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 FOR 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 (473-598 mg/L, very hard water)
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 FOR TOXICITY WITH AQUATIC ORGANISMS, 1975).	LC50 (96 h): 121 mg/L act. ingr. (Na4EDTA) (nominal) based on: mortality (113-130, very soft water) LC50 (96 h): 792 mg/L act. ingr. (Na4EDTA) (nominal) based on: mortality (754-831, medium hard water) LC50 (96 h): 1592 mg/L act. ingr. (Na4EDTA) (nominal) based on: mortality (1493-1678, hard water)
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 FOR TOXICITY WITH AQUATIC ORGANISMS, 1975).	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: Danio rerio) freshwater early-life stage: reproduction, (sub)lethal effects flow-through OECD Guideline 210 (Fish, Early-Life Stage Toxicity Test)	NOEC (35 d): >= 25.7 mg/L act. ingr. (H4EDTA) (meas. (not specified))
Short-term effects on aquatic invertebrates	

EDTA 2Na (6381-92-6)	
Daphnia magna freshwater static DIN 38412, part 11	EC50 (48 h): 140 mg/L test mat. (nominal) based on: mobility (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): > 1000 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): 1000 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 NOEC (72 h): 100 mg/L test mat. (nominal) based on: growth rate LOEC (72 h): > 100 mg/L test mat. (nominal) based on: growth rate EC10 (72 h): > 100 mg/L test mat. (nominal) based on: growth rate

Scenedesmus subspicatus (new name: Desmodesmus subspicatus) (algae) freshwater static EEC guideline 79/831/EEC, Annexe V, part C: Methods for the determination of ecotoxicity, algae: Test of growth inhibition, May 1988	EC50 (72 h): 2.77 mg/L test mat. based on: growth rate NOEC (72 h): 0.39 mg/L test mat. based on: growth rate LOEC (72 h): 0.78 mg/L test mat. based on: growth rate EC10 (72 h): 0.7 mg/L test mat. based on: growth rate

Persistence and degradability: EDTA are not readily biodegradable according to OECD criteria.
Bioaccumlative potential: No data available
Mobility in soil Results of PBT and vPvB assessment: No data available
Other adverse effects: May be harmful to the aquatic environment.
Chronic Toxicity: There are no known carcinogenic chemicals in this product

SECTION 13 - DISPOSAL CONSIDERATIONS

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Dispose of container and unused contents in accordance with federal, state and local requirements.

SECTION 14 - TRANSPORT INFORMATION

DOT	TDG	IATA	IMDG/IMO
Not regulated	Not regulated	Not regulated	Not regulated

SECTION 15 - REGULATORY INFORMATION

INTERNATIONAL INVENTORIES

TSCA	DSL	NDSL	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Listed	Listed	Listed	Listed	-	Listed	Listed	Listed	Listed	Listed

USA FEDERAL REGULATION

SARA 311/312 HAZARDOUS CATEGORIZATION

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release of Pressure Hazard	Reactive Hazard
Yes	No	No	No	No

TSCA 12(b): Not Applicable
SARA 313: Not Applicable
Clean Water Act/ Clean Air Act: N**ot** Applicable
OSHA: N**ot** Applicable
California Proposition 65: This product does not contain any Proposition 65 chemicals.
CERCLA: N**ot** Applicable

HMIS Rating

Health hazard	Chronic Health Hazard	Flammability	Physical Hazard
1	*	0	0

NFPA Rating

Health Hazard	Fire Hazard	Reactivity Hazard
1	0	0

STATE RIGHT TO KNOW

Massachusetts	New Jersey	Pennsylvania	Illinois	California
-	Listed	Listed	-	Listed

US DEPARTMENT OF TRANSPORTATION

REPORTABLE QUANTITY (RQ)	DOT MARINE POLLUTANT	DOT SEVER MARINE POLLUTANT
No	No	No

U.S. DEPARTMENT OF HOMELAND SECURITY: This product does not contain any DHS chemicals.

Canada: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

This SDS complies with the requirements of Regulation (EC).

SECTION 16 - OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Research Products International Corp. shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. This product is sold for laboratory research and development purposes use only.