



5515 North Service Rd. #306
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megaloid.ca



1. IDENTIFICATION

Name: Solution of Sodium EDTA

Synonyms: Chemical name of components listed in Part 3, below

Product Uses: Chelating agent

Supplier: Megaloid Laboratories Limited
Identifier: 5515 North Service Road # 306
Burlington, ON L7L 6G4

EMERGENCY INFORMATION: Call CHEMTREC - (800) 424-9300
(CCN# 693764)

2. HAZARD IDENTIFICATION

GHS Class <i>(Category)</i>	Corrosive to metals <i>(1)</i>	Eye damage/irritation <i>(2A)</i>	Acute toxicity, inhalation <i>(4)</i>	Skin irritant <i>(3)</i>	Specific target organ toxicity, repeated exposure <i>(2)</i>
Signal Word	Warning				
Hazard Statements	May be corrosive to metals (H290)	Causes serious eye damage (H319)	Harmful if inhaled (H332)	Causes mild skin irritation (H316)	Causes damage to organs through prolonged of repeated exposure (H373)
Hazardous Pictograms					

GHS Precautionary Statements for Labelling

Prevention:

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P234	<i>Keep only in original container.</i>
P260	<i>Do not breathe mist, vapors or spray.</i>
P264	<i>Wash skin thoroughly after handling.</i>
P271	<i>Use only outdoors or in a well-ventilated area.</i>
P280	<i>Wear protective gloves/ eye protection/ face protection.</i>
Response:	
P304 + P340	<i>IF INHALED: Remove person to fresh air and keep comfortable for breathing.</i>
P305 + P351 + P338	<i>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</i>
P314	<i>Get medical advice/ attention if you feel unwell.</i>
P337 + P313	<i>If eye irritation persists: Get medical advice/attention</i>
P390	<i>Absorb spillage to prevent material damage.</i>
Storage:	
P406	<i>Store in corrosive resistant container with resistant liner.</i>
Disposal:	
P501	<i>Dispose of contents/container in accordance with local regulation.</i>

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name:	CAS No.	%
<i>Water</i>	<i>7732-18-5</i>	<i>56%</i>
<i>Tetrasodium ethylenediamine tetraacetate</i>	<i>64-02-8</i>	<i><39%</i>
<i>Sodium hydroxyacetate</i>	<i>2836-32-0</i>	<i>3%</i>
<i>Sodium hydroxide</i>	<i>1310-73-2</i>	<i><1.6%</i>
<i>Trisodium nitrilotriacetate</i>	<i>5064-31-3</i>	<i>1%</i>

4. FIRST-AID MEASURES

Inhalation

Remove from contaminated area promptly. ***CAUTION: Rescuer must not endanger himself!*** If breathing stops, administer artificial respiration and seek medical aid promptly.

Skin Contact

Wash with plenty of water. Remove contaminated clothing and do not reuse until thoroughly laundered.

Eye Contact

Wash eyes with plenty of water, holding eyelids open. Seek medical assistance if there is any irritation.

Ingestion

Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victim's head below hips to prevent inhalation of vomited material. Seek medical help promptly.

Most important symptoms and effects, both acute and delayed

Causes serious eye damage

Harmful if inhaled

Causes mild skin irritation

Causes damage to organs through prolonged or repeated exposure

Notes to physician

Treat symptomatically

Inadvertent inhalation of vomited material may seriously damage the lungs. The danger of this is greater than the risk of poisoning through absorption of this relatively low-toxicity substance. The stomach should only be emptied under medical supervision, and after the installation of an airway to protect the lungs.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media

As for materials sustaining fire; compatible with water. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.

Unsuitable Extinguishing Media

No data available

Specific Hazards Arising from the Product

Combustion Products - carbon monoxide, nitrogen oxides, sodium oxide

Special Protective Equipment and Precautions for Fire-fighters

Firefighters must wear SCBA

Static Charge Accumulation

Cannot accumulate a static charge on agitation or pumping

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Firefighters must wear SCBA

Methods and materials for containment and cleaning up

Dyke to control spillage and prevent environmental contamination. Recover free liquid with suitable pumps; absorb residue on an inert sorbent, sweep, shovel & store in closed containers for recycling or disposal

7. HANDLING & STORAGE

Precautions for Safe Handling

Avoid creating product mist or spray. If mist or spray form in processing, install adequate ventilation to clear area. Take measures to prevent misting. Never cut, drill, weld or grind on or near this container. Avoid contact with skin & wash work clothes frequently. An eye bath & safety shower must be available near the workplace.

Conditions for Safe Storage

Store between -18 & 50°C (0 & 120°F). Keep away from strong acids. Always ensure that containers, empty or full, are tightly sealed unless in use.

8. EXPOSURE CONTROL & PERSONAL PROTECTION-

Ontario TWAEV	2mg/m ³	Ontario STEV	Not listed
ACGIH TLV	2mg/m ³	ACGIH STEL	Not listed
OSHA PEL	2mg/m ³	OSHA STEL	Not listed

Sodium Hydroxide: (the other components are not listed):

Ventilation	mechanical exhaust ventilation may be required to clear any airborne (alkaline) mist or spray
Hands	nitrile or neoprene gloves recommended – other types may also protect; confirm suitability with supplier
Eyes	safety glasses with side shields – <i>always protect the eyes</i>
Clothing	wear impermeable (above) apron, boots, & long sleeves if there is any danger of splashing,

9. PHYSICAL & CHEMICAL PROPERTIES

Odour & Appearance	pale yellow liquid with mild amine odour
Odour threshold	mild
pH	11.0 - 11.8 Literature 1% aqueous solution.
Melting point/Freezing point	-25°C / -13°F

Initial boiling point/boiling range	106°C / 223°F
Flash point	closed cup No measurable flash point, Pensky-Martens Closed Cup ASTM D 93
Evaporation rate (<i>Butyl Acetate = 1</i>)	< 0.8 Estimated.
Flammability (solid; gas)	no data available
Lower flammable/explosive limit	cannot burn
Upper flammable/explosive limit	cannot burn
Vapour pressure	as for water – <i>water vapour only above liquid</i>
Vapour density (<i>air = 1</i>)	0.6 (<i>water – the only volatile substance present</i>)
Relative density	1.31 at 25 °C (77 °F) / 25 °C Literature
Water Solubility	complete
Partition coefficient – n-octanol/water	No data available
Auto ignition temperature	cannot burn
Decomposition temperature	No data available
Viscosity	not known
Molecular Weight	380 (<i>EDTA only</i>)

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical Stability

Stable will not polymerize

Possibility of Hazardous Reactions

Polymerization will not occur.

Conditions to avoid

Some components of this product can decompose at elevated temperatures.

Incompatible materials

Avoid contact with metals such as: Aluminum alloys. Copper. Copper alloys. Nickel.

Hazardous decomposition products

None apart from Hazardous Combustion Products

Sensitive to Mechanical Impact

No

11. TOXICOLOGICAL INFORMATION

Acute Toxicity	
Skin Contact	some reports state "irritating"; others state "not irritating" ¹
Skin Absorption	probably nil; no toxic effects likely by this route
Eye Contact	corrosive to eyes; may cause permanent damage ¹
Inhalation	mist or spray containing solute may irritate (vapour contains only water)
Ingestion	low toxicity by oral route; irritation of chemical burns may occur in the mouth, throat & stomach
LD50 (oral)	1660, 1700, 1845, 2580, 2700 & 3200mg/kg (rat), 12,000mg/kg (dog), 7000mg/kg (rabbit)
Calculated LD50 (oral)	>3815mg/kg (rat)
LD50 (skin)	above 5000mg/kg (rabbit)
Calculated LD50 (skin)	12,300mg/kg (rabbit)
LC50 (inhalation)	not known – <i>insufficient data to calculate</i>

11. TOXICITY, CONTINUED

Effects, Chronic Exposure

General - prolonged or repeated skin contact may cause skin burns, pain, local redness, swelling, Etc

Sensitising - not a sensitiser in humans or animals¹

Carcinogen/Tumorigen - trisodium nitrilotriacetate is an animal tumorigen on 2-years of ingestion at over 250mg/kg/day¹; not relevant to industrial exposure, not considered a tumorigen or a carcinogen in humans

Reproductive Effect - no known effect in humans; experimental rodent teratogen at oral doses clearly toxic to mother¹; not relevant to industrial exposure

Mutagen/Teratogen - no known effect on humans; malformations in rodents on ingestion of over 1000mg/kg/day¹; not relevant to industrial exposure

Synergistic With - not known

12. ECOLOGICAL INFORMATION

Tetrasodium ethylenediamine tetraacetate Acid (EDTA):

Bioaccumulation	not a bioaccumulator
Biodegradation	various values reported from 1% in 72dy to 63% in 5dy; 10% in 28 days ¹ , 90% in 28 days ¹ & many others
Abiotic Degradation	not known
Mobility in soil, water	highly water soluble; expected to bind to soil particles; may move slowly or not at all in soil & water
Aquatic Toxicity	
LC₅₀ (Fish, 96hr)	41 ¹ , 121 ¹ , 159 ¹ , 486, 532 ¹ , 705 ¹ , 792 ¹ , 1030, 1596 ¹ & 2070mg/litre (Lepomis macrochirus), 60mg/litre (Pimephelas promelas) & others tested at 24 and 48 hours
EC₅₀ (Crustacea, 24hr)	610 ¹ , 625 ¹ & 1030mg/litre (Daphnia magna), 4834mg/litre (Crangon crangon, 96hr) & others
EC₅₀ (Algae)	>100mg/litre (Scenedesmus subspicatus), >100mg/litre (Desmodesmus subspicatus) ¹ , >60 & >1000mg/litre (Pseudokirchnerella subcapitata) ¹
EC₁₀ (Bacteria)	55mg/litre (Pseudomonas putida), >1000mg/litre (other bacteria)
EC₅₀ (Bacteria)	>500mg/litre (sewage sludge) ¹
EC₅ (Microbes)	663mg/litre (Chilomonas paramecium)

Variable data; test conditions, particularly water hardness, are important in measuring aquatic toxicity. Toxicity is greatest in soft water & least in hard water. Biodegradation data are also variable, probably for similar reasons.

TriSodium Nitrilotriacetate:

Bioaccumulation	not a bioaccumulator
Biodegradation	biodegrades readily & rapidly in the presence of oxygen;>70% in 12 days, 100% in 14 days, 95% in 28 days & others
Abiotic Degradation	reacts with atmospheric hydroxyl radicals; estimated ½-life in air is 1.5hr
Mobility in soil, water	water soluble; moves readily in soil and water
Aquatic Toxicity	
LC₅₀ (Fish, 96hr)	475mg/litre (Carp, 48hr); 100-300mg/litre (various fish, 96hr)
EC₅₀ (Crustacea, 96hr)	400 & 560mg/litre (Physa heterostropha)

EC₅₀ (Algae, 72hr)	>100mg/litre (Scenedesmus subspicatus), 5mg/litre (Anabena flosaquae, Anacystis aeruginosa, Selenastrum capricornutum)
EC₅₀ (Bacteria)	3200mg/litre (Pseudomonas fluorescens), >10,000mg/litre Pseudomonas putida) & others

Sodium Hydroxide:	
Bioaccumulation	not a bioaccumulator
Biodegradation	inorganic product – cannot biodegrade
Abiotic Degradation	neutralises to sodium carbonate; if calcium or magnesium ions are present, insoluble carbonates will form & precipitate.
Mobility in soil, water	water soluble & moves readily in soil and water – <i>however, formation of insoluble carbonates may limit movement</i>
<i>Aquatic Toxicity</i>	
LC₅₀ (Fish, 96hr)	125mg/litre (Gambusia affinis), 45mg/litre (Oncorhynchus mykiss) – <i>mortality caused by alkalinity</i>
LC₁₀₀ (Crustacea, 48hr)	100-150mg/litre (Daphnia magna); 125-1000mg/litre (freshwater insect larvae)
EC₅₀ (Algae)	no information
EC₅₀ (Bacteria)	22mg/litre (Photobacterium phosphoreum)

Sodium hydroxyacetate - no data available

13. DISPOSAL

Waste Disposal

Do not flush to sewer, recycle solvent if possible, local regulations may permit disposal in sanitary landfill, may be incinerated in approved facility after mixing with a suitable flammable waste

Containers

Drums should be reused. Recondition and pressure test by a licensed reconditioner prior to re-use.


Pails must be vented and thoroughly dried prior to crushing and recycling.

IBCs (intermediate bulk containers): polyethylene bottle must be pressure tested & recertified at 30 months. Replace at 60 months (5yrs).

Steel containers must be inspected, pressure tested & recertified every 5 years.

***Never cut, drill, weld or grind on or near this container,
even if empty***

14. TRANSPORT CLASSIFICATION

Canada TDG	UN / PIN #	3267	
AND	Shipping Name	Corrosive liquid, basic, organic, n.o.s. (Sodium hydroxide, Tetrasodium ethylenediaminetetraacetate)	
U.S.A. 49 CFR	Class & Packing Group	8,III	

Marine Pollutant	Not a marine pollutant
ERAP Required (CA only)	No
Emergency Response Guide No.	153
Reportable Quantity (RQ – USA only)	5000lbs / 2270kg of EDTA = 13,500lbs / 6130kg of solution

15. REGULATIONS

Canada DSL	On Inventory
U.S.A. TSCA	On Inventory
Europe EINECS	On Inventory

U.S.A. Regulations:

Allowable Tolerances: Residues of ethylenediaminetetraacetic acid, tetrasodium salt are exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest. Use: sequestrant. Limit: 5% of pesticide formulation. Residues of the following chemical substances are exempted from the requirement of a tolerance when used in accordance with good manufacturing practice as ingredients in an antimicrobial pesticide formulation, provided that the substance is applied on a semi-permanent or permanent food-contact surface (other than being applied on food packaging) with adequate draining before contact with food. (a) The following chemical substances when used as ingredients in an antimicrobial pesticide formulation may be applied to: Food-contact surfaces in public eating places, dairy-processing equipment, and food-processing equipment and utensils. Ethylenediaminetetraacetic acid (EDTA), tetrasodium salt is included on this list. Residues of the following chemical substances are exempted from the requirement of a tolerance when used in accordance with good manufacturing practice as ingredients in an antimicrobial pesticide formulation, provided that the substance is applied on a semi-permanent or permanent food-contact surface (other than being applied on food packaging) with adequate draining before contact with food. ... (c) The following chemical substances when used as ingredients in an antimicrobial pesticide formulation may be applied to: Food-processing equipment and utensils. Ethylenediaminetetraacetic acid (EDTA), tetrasodium salt is included on this list.

FIFRA Requirements: Residues of ethylenediaminetetraacetic acid, tetrasodium salt are exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest. Use: sequestrant. Limit: 5% of pesticide formulation. Residues of the following chemical substances are exempted from the requirement of a tolerance when used in accordance with good manufacturing practice as ingredients in an antimicrobial pesticide formulation, provided that the substance is applied on a semi-permanent or permanent food-contact surface (other than being applied on food packaging) with adequate draining before contact with food. (a) The following chemical substances when used as ingredients in an antimicrobial pesticide formulation may be applied to: Food-contact surfaces in public eating places, dairy-processing equipment, and food-processing equipment and utensils. Ethylenediaminetetraacetic acid (EDTA), tetrasodium salt is included on this list. Residues of the following chemical substances are exempted from the requirement of a tolerance when used in accordance with good manufacturing practice as ingredients in an antimicrobial pesticide formulation, provided that the substance is applied on a semi-permanent or permanent

food-contact surface (other than being applied on food packaging) with adequate draining before contact with food. ... (c) The following chemical substances when used as ingredients in an antimicrobial pesticide formulation may be applied to: Food-processing equipment and utensils. Ethylenediaminetetraacetic acid (EDTA), tetrasodium salt is included on this list. As the federal pesticide law FIFRA directs, EPA is conducting a comprehensive review of older pesticides to consider their health and environmental effects and make decisions about their continued use. Under this pesticide reregistration program, EPA examines newer health and safety data for pesticide active ingredients initially registered before November 1, 1984, and determines whether the use of the pesticide does not pose unreasonable risk in accordance to newer safety standards, such as those described in the Food Quality Protection Act of 1996. Pesticides for which EPA had not issued Registration Standards prior to the effective date of FIFRA '88 were divided into three lists based upon their potential for human exposure and other factors, with List B containing pesticides of greater concern than those on List C, and with List C containing pesticides of greater concern than those on List D. Tetrasodium ethylenediaminetetraacetate is found on List D. Case No: 4036; Pesticide type: insecticide, fungicide, herbicide, antimicrobial; Case Status: None of the active ingredients in the case are being supported for reregistration by their registrants. All are unsupported, or some are unsupported and some are cancelled. Cases described as "unsupported" generally are being processed for cancellation.; Active ingredient (AI): tetrasodium ethylenediaminetetraacetate; AI Status: Registrants of the pesticide have not made or honored a commitment to seek reregistration, conduct the necessary studies, or pay the requisite fees, or they have asked EPA to cancel their product registrations. Unless some other interested party supports them, products containing the pesticide will be cancelled.

FDA Requirements: Indirect food additives: Substances for use as components of coatings. Resinous and polymeric coatings. Tetrasodium EDTA is included on this list.

16. OTHER INFORMATION

NFPA RATING	Health 3	Flammability 0	Instability 0
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Prepared for Megaloid Laboratories **by** Rob Cangiano
Preparation Date: January 2007
Revision Dates: January 2010, January 2013, January 2016, October 2019, February 2020

Key to Abbreviations	<p>ACGIH® = American Conference of Governmental Industrial Hygienists AIHA® = AIHA® Guideline Foundation HSDB® = Hazardous Substances Data Bank IARC = International Agency for Research on Cancer NIOSH = National Institute for Occupational Safety and Health NTP = National Toxicology Program OSHA = US Occupational Safety and Health Administration RTECS® = Registry of Toxic Effects of Chemical Substances</p>
References	<p>CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS). HSDB® database. US National Library of Medicine. Available from Canadian Centre for Occupational Health and Safety (CCOHS). NIOSH Pocket Guide database. National Institute for Occupational Safety and Health. Available from Canadian Centre for Occupational Health and Safety (CCOHS). Registry of Toxic Effects of Chemical Substances (RTECS®) database. Dassault Systèmes/BIOVIA ("BIOVIA"). Available from Canadian Centre for Occupational Health and Safety (CCOHS).</p>
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