SAFETY DATA SHEET
ETHYLENEDIAMINETETRAACETIC ACID
REVISION 4, DATE 25 AUG 2023

1. IDENTIFICATION

Product Name	**Ethylenediaminetetraacetic acid**
Other Names	EDTA Acid
Uses	Used as complexing agents.
Chemical Family	No Data Available
Chemical Formula	C10H16N2O8
Chemical Name	Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Suite 13A.03, Menara Summit Persiaran Kewajipan USJ1 47600 UEP Subang Jaya Selangor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Australia – Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
National Poison Centre	Malaysia	+60-4-6536-999
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)	Not Scheduled

Globally Harmonised System

Hazard Classification		Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)	
Hazard Categories		Acute Toxicity (Inhalation) - Category 4 Serious Eye Damage/Irritation - Category 2 Specific Target Organ Toxicity (Repeated Exposure) - Category 2	
Pictograms			
Signal Word		Warning	
Hazard Statements		**H319**	Causes serious eye irritation.
		H332	Harmful if inhaled.
		H373	May cause damage to organs through prolonged or repeated exposure.
Precautionary Statements	Prevention	**P271**	Use only outdoors or in a well-ventilated area.
		P260	Do not breathe dusts or mists.
		P280	Wear eye protection/face protection.
		P264	Wash hands and face thoroughly after handling.
	Response	**P304 + P340**	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
		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 if you feel unwell.
		P337 + P313	If eye irritation persists: Get medical advice.
	Disposal	**P501**	Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Safe Work Australia

National Guide for Classifying Hazardous Chemicals under the Model WHS Regulations

Hazard Classification	Hazardous according to the criteria of Safe Work Australia under Model WHS Regulations

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Ethylenediaminetetraacetic acid	C10H16N2O8	60-00-4	>=99 - 100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth with water. Get medical advice/attention if you feel unwell.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs, get medical advice/attention.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a Poison Center or a doctor if you feel unwell.
Advice to Doctor	Get medical advice/attention if you feel unwell. Treat symptomatically. *Most important symptoms and effects, both acute and delayed: Harmful if inhaled. Causes serious eye irritation. May cause damage to organs through prolonged or repeated exposure.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	Move containers from fire area if you can do it without risk. Cool containers with water spray until well after fire is out. Dike fire-control water for later disposal.
Flammability Conditions	Not flammable. May burn but does not ignite readily.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction. Do not scatter spilled material with high-pressure water streams.
Fire and Explosion Hazard	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Hazardous Products of Combustion	Fire may produce irritating and/or toxic gases, including Carbon oxides (CO, CO2), Nitrogen oxides.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may cause pollution.
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. ELIMINATE all ignition sources (if dust clouds can occur). Do not touch or walk through spilled material. Avoid generating dust. Do not breathe dusts or mists and avoid contact with eyes, skin and clothing.
Clean Up Procedures	Shovel or sweep up and put in a closed container for disposal (see SECTION 13).
Containment	Stop leak if you can do it without risk. Prevent dust cloud. Prevent entry into waterways, sewers, basements or confined areas.
Decontamination	No information available.
	Prevent entry into drains and watercourses. Advise local authorities if considered necessary.

Environmental Precautionary Measures	
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep people away from and upwind of spill/leak.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation - Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Minimise dust generation and accumulation. Do not breathe dusts or mists and avoid contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). WARNING: May form combustible dust concentrations in air! Keep away from heat and sources of ignition - No smoking. Take action to prevent static discharges.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Containers which are opened should be properly resealed and kept upright to prevent leakage. Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10).
Container	Keep in the original container. *Incompatible materials: Copper, Copper alloys, Nickel.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product.
Exposure Limits	
Biological Limits	

Material	Type	Limit Info
Ethylenediaminetetraacetic acid		

Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal Protection Equipment	- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Dust mask/particulate respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses with side shields. - Hand protection: Handle with gloves. Recommended: Protective gloves. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Suitable protective clothing.
Special Hazards Precaustions	Avoid release to the environment.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Take off contaminated clothing and wash before reuse. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Powder
Odour	Odourless

Colour	White
pH	No Data Available
Vapour Pressure	2E-012 hPa [Riedel and Plank] (@ 25 °C)
Relative Vapour Density	No Data Available
Boiling Point	Substance decomposes before boiling
Melting Point	Decomposes
Freezing Point	No Data Available
Solubility	Substance is insoluble in common organic solvents (<0.1 mg/L) - 400 mg/l in water 20°C
Specific Gravity	No Data Available
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	>220 °C
Density	1.46 g/cm3
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	log Pow: -3.86 (25°C)
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Not flammable. May burn but does not ignite readily.
Reactions That Release Gases or Vapours	Fire/decomposition may produce irritating and/or toxic gases, including Carbon oxides (CO, CO2), Nitrogen oxides.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	The product is non-reactive under normal conditions of use, storage and transport.
Chemical Stability	Stable under normal conditions.

Conditions to Avoid	Avoid generating dust. Keep away from heat and sources of ignition. Take action to prevent static discharges.
Materials to Avoid	Incompatible/reactive with Copper, Copper alloys, Nickel.
Hazardous Decomposition Products	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Fire/decomposition may produce irritating and/or toxic gases, including Carbon oxides (CO, CO2), Nitrogen oxides.
Hazardous Polymerisation	No dangerous reactions known under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

General Information

Information on toxicological effects:
- Acute toxicity: Harmful if inhaled.
- Skin corrosion/irritation: Not classified. Not irritating to skin.
- Eye damage/irritation: Causes serious eye irritation.
- Respiratory/skin sensitisation: Not classified. No sensitisation responses were observed.
- Germ cell mutagenicity: Not classified. No adverse effect observed (negative).
- Carcinogenicity: Not classified.
- Reproductive toxicity: Not classified.
- STOT (single exposure): Not classified.
- STOT (repeated exposure): May cause damage to organs through prolonged or repeated exposure.
- Aspiration toxicity: Not classified.

Information on likely routes of exposure:
- Ingestion: No information available.
- Eye contact: Causes serious eye irritation.
- Skin contact: Not irritating to skin.
- Inhalation: Harmful if inhaled.

Chronic effects: May cause damage to organs through prolonged or repeated exposure.

Acute

Ingestion

Acute toxicity (Oral):
- LD50, Rat: 4,500 mg/kg bw. [Supplier's SDS].

Chronic

Ingestion

Repeated dose toxicity (via oral route - systemic effects):
- NOAEL, Rat: 500 mg/kg bw/day [Supplier's SDS].

Carcinogen Category

None

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic toxicity:
- EC10/LC10 or NOEC for freshwater algae: 48.4 mg/L [Supplier's SDS].
- EC10/LC10 or NOEC for aquatic micro-organisms: 500 mg/L [Supplier's SDS].

Persistence/Degradability	Readily biodegradable.
Mobility	No information available.
Environmental Fate	The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Bioaccumulation Potential	Partition coefficient n-octanol/water (Log Pow): -3.86 (25°C).
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information

Dispose of contents/container in accordance with local/regional/national regulations.

Special Precautions for Land Fill No information available.

14. TRANSPORT INFORMATION

Land Transport (Australia)
ADG Code

Proper Shipping Name	Ethylenediaminetetraacetic acid (EDTA acid)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Malaysia)
ADR Code

Proper Shipping Name	Ethylenediaminetetraacetic acid (EDTA acid)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (New Zealand)
NZS5433

Proper Shipping Name	Ethylenediaminetetraacetic acid (EDTA acid)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (United States of America)
US DOT

Proper Shipping Name	Ethylenediaminetetraacetic acid (EDTA acid)
Class	No Data Available

Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport
IMDG Code

Proper Shipping Name	Ethylenediaminetetraacetic acid (EDTA acid)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No
Comments	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport
IATA DGR

Proper Shipping Name	Ethylenediaminetetraacetic acid (EDTA acid)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

National Transport Commission (Australia)
Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)
Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR002503 - Additives, Process Chemicals and Raw Materials (Subsidiary Hazard) Group Standard 2020

National/Regional Inventories

Australia (AIIC)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Listed
China (IECSC)	Listed
Europe (EINECS)	200-449-4
Europe (REACh)	Not Determined
Japan (ENCS/METI)	Listed
Korea (KECI)	Listed
Malaysia (List of Classified Substances)	Not Listed
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Taiwan (TCSI)	Listed
USA (TSCA)	Listed
Mexico (INSQ)	Listed

16. OTHER INFORMATION

Related Product Codes	EDTAAC1000, EDTAAC1001, EDTAAC1002, EDTAAC1003, EDTAAC1004, EDTAAC1005, EDTAAC1006, EDTAAC1007, EDTAAC1008, EDTAAC1009, EDTAAC1010, EDTAAC1011, EDTAAC1012, EDTAAC1013, EDTAAC1014, EDTAAC1015, EDTAAC1016, EDTAAC1017, EDTAAC1018, EDTAAC1019, EDTAAC1020, EDTAAC1021, EDTAAC1022, EDTAAC1023, EDTAAC1024, EDTAAC1025, EDTAAC1026, EDTAAC1027, EDTAAC1800, EDTAAC1801, EDTAAC1802, EDTAAC1803, EDTAAC1804, EDTAAC1805, EDTAAC1806, EDTAAC1807, EDTAAC1808, EDTAAC1809, EDTAAC1810, EDTAAC1811, EDTAAC1812, EDTAAC1813, EDTAAC2000, EDTAAC3000, EDTAAC3001, EDTAAC3010, EDTAAC3500, EDTAAC3501, EDTAAC4000, EDTAAC4300, EDTAAC5000, EDTAAC6000, EDTAAC6001, EDTAAC6002, EDTAAC7400, EDTAAC7500, EDTAAC7700, EDTAAC7701, EDTAAC7702, EDTAAC7703, EDTAAC7705, EDTAAC7707, EDTAAC9000
Revision	4
Revision Date	25 Aug 2023
Key/Legend	< Less Than > Greater Than **AICS** Australian Inventory of Chemical Substances **atm** Atmosphere **CAS** Chemical Abstracts Service (Registry Number) **cm^2** Square Centimetres **CO2** Carbon Dioxide **COD** Chemical Oxygen Demand **deg C (°C)** Degrees Celcius **EPA (New Zealand)** Environmental Protection Authority of New Zealand **deg F (°F)** Degrees Farenheit **g** Grams **g/cm^3** Grams per Cubic Centimetre **g/l** Grams per Litre

HSNO Hazardous Substance and New Organism
IDLH Immediately Dangerous to Life and Health
immiscible Liquids are insoluable in each other.
inHg Inch of Mercury
inH2O Inch of Water
K Kelvin
kg Kilogram
kg/m^3 Kilograms per Cubic Metre
lb Pound
LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
ltr or **L** Litre
m^3 Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m^3 Milligrams per Cubic Metre
Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH2O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Heath and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight