SAFETY DATA SHEET

EDTA TETRASODIUM (EDTA-4NA)

CAS No.: 64-02-8

This Safety Data Sheet is issued by Suraj Chemicals as the distributor/supplier of record, based on manufacturer and published GHS / regulatory reference data for this substance. Users should also consult the specific manufacturer's SDS where available.

1. IDENTIFICATION

GHS Product identifier

EDTA TETRASODIUM (EDTA-4NA)
Tetrasodium edetate; Tetrasodium EDTA; Tetrasodium ethylenediaminetetraacetate
CAS: 64-02-8

Other means of identification

Not relevant

Recommended use of the chemical and restrictions on use

Relevant uses: Chelating agent (water treatment, textile/dyeing and pulp/paper auxiliary, cleaning and industrial process formulations). For industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3.

Supplier's details

SURAJ CHEMICALS
No 92, Govindappa Naicken Street, Shiva Complex, Chennai – 600001, Tamil Nadu, India
Tel: +91 - 7092722822, +91 - 9840284032 / +91 - 44 - 25393652, 42130281
Email: sales@surajchemicals.com | Website: www.surajchemicals.com
GST No: 33ACEPV8190L1ZZ

Emergency phone number

Emergency Contact No: +91 - 7092722822, +91 - 9840284032

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS:
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Skin Irrit. 2	Skin irritation, Category 2, H315
Eye Dam. 1	Serious eye damage, Category 1, H318

GHS label elements, including precautionary statements

GHS: Danger

Hazard statements

Skin Irrit. 2: H315 – Causes skin irritation.
Eye Dam. 1: H318 – Causes serious eye damage.

Precautionary statements

P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352: IF ON SKIN: Wash with plenty of water.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a doctor.
P321: Specific treatment (see supplemental first aid instructions).
P501: Dispose of the contents/containers in accordance with regulations on waste.

Other hazards which do not result in classification

Aqueous solutions are alkaline (pH ~10–11.5). Fine powder may cause mechanical/nuisance-dust irritation of the respiratory tract. Strong chelating action can mobilise heavy metals in the environment (see section 12).

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances

Chemical description: EDTA Tetrasodium (EDTA-4Na) (technical/industrial grade)
In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 64-02-8	EDTA Tetrasodium (EDTA-4Na) — Skin Irrit. 2: H315; Eye Dam. 1: H318 – Danger	≥ 98%

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

Mixtures

Non-applicable

4. FIRST AID MEASURES

Description of necessary first-aid measures

Request medical assistance if symptoms occur or persist, showing the SDS of this product.

By inhalation

Remove the person affected from the area of exposure to fresh air. Seek medical attention if discomfort persists.

By skin contact

Wash skin thoroughly with water. Remove contaminated clothing. Seek medical attention if irritation persists.

By eye contact

Rinse eyes thoroughly with lukewarm water for at least 15 minutes, holding eyelids open. Remove contact lenses if present and easy to do. Seek medical attention if irritation persists.

By ingestion/aspiration

Rinse the mouth with water. If a large quantity is swallowed or the person feels unwell, seek medical attention.

Most important symptoms/effects, acute and delayed

Acute and delayed effects are indicated in sections 2 and 11.

Indication of immediate medical attention and special treatment needed, if necessary

Serious eye damage (H318) – immediate and prolonged eye irrigation is essential; obtain ophthalmological assessment.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Suitable: Water spray/fog, foam, dry chemical powder, carbon dioxide – suit surrounding fire
Unsuitable: None known

Specific hazards arising from the chemical

Not flammable, not explosive, not self-heating under normal conditions.

Special protective actions for fire-fighters

Evacuate all non-essential personnel. Wear self-contained breathing apparatus and full protective clothing in case of significant fire involving this product.

Additional provisions

Cool fire-exposed containers with water spray. Contain fire-fighting water to prevent environmental release.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Isolate leaks provided there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilt product (see section 8). Evacuate the area and keep out those who do not have protection.

For emergency responders

Wear protective equipment. Keep unprotected persons away. See section 8.

Environmental precautions

Avoid dust generation. Prevent large quantities from entering drains or watercourses. Notify the relevant authority in case of significant environmental release.

Methods and materials for containment and cleaning up

Sweep up/vacuum (avoid generating dust) and place in a labelled container for reuse or disposal. Wash residual area with water.

Reference to other sections

See sections 8 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling

A. General precautions for safe use

Avoid generating and inhaling dust. Avoid contact with eyes and skin – alkaline solutions can cause serious eye damage.

B. Technical recommendations for the prevention of fires and explosions

Not applicable – product is not flammable or explosive under normal conditions.

C. Technical recommendations on general occupational hygiene

Do not eat or drink during the process; wash hands afterwards with suitable cleaning products.

D. Technical recommendations to prevent environmental risks

Provide tight electrical equipment well protected against corrosion. Avoid atmospheric emissions. Warn people about the dangers of the product. Follow the protective measures given in the exposure controls/personal protection section. In industrial installations, apply the rules for the prevention of major accidents (consult an expert).

Conditions for safe storage, including any incompatibilities

A. Specific storage requirements

Minimum Temp.	Ambient
Maximum Temp.	35°C
Maximum time	24 Months in original sealed packaging, kept dry

B. General conditions for storage

Store in a cool, dry, well-ventilated place in tightly closed containers/bags, away from strong acids/oxidizers and heavy-metal salts. For additional information see subsection 10.5.

Specific end use(s)

Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

No specific occupational exposure limit has been established for this substance under the Factories Act, 1948. Apply the general limit for particulates not otherwise classified/specified (PNOS/PNOC) as a good-practice reference value.

Identification	Occupational Exposure Limit Type	Value
EDTA Tetrasodium CAS: 64-02-8	Particulates Not Otherwise Specified – TWA (8 hrs, inhalable)	10 mg/m³ (reference value)

Appropriate engineering controls

It is recommended to use localized extraction in the work area as a collective protection measure to avoid exceeding occupational exposure limits, in addition to individual protective equipment (PPE) as needed. Consult the manufacturer's information leaflet for storage, use, cleaning and maintenance of PPE.

B. Respiratory protection

Not normally required with adequate ventilation. Use a dust mask (FFP1/FFP2) if dust levels are high.

C. Specific protection for the hands

Chemical-resistant gloves (e.g. nitrile).

D. Eye and face protection

Chemical splash goggles/face shield (product causes serious eye damage).

E. Bodily protection

Standard industrial workwear.

F. Additional emergency measures

Emergency shower (ANSI Z358-1, ISO 3864-1:2011, ISO 3864-4:2011) and eyewash stations (DIN 12 899, ISO 3864-1:2011, ISO 3864-4:2011) should be available.

Environmental exposure controls

Avoid environmental spillage of both the product and its container. See subsection 7.1.D.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	
Physical state at 20°C	Solid
Appearance	Crystalline powder/granules
Color	White
Odor	Odorless
Odour threshold	Not relevant *
Volatility	
Boiling point at atmospheric pressure	Not relevant (decomposes before boiling)
Vapour pressure at 20°C	Negligible
Evaporation rate at 20°C	Not relevant (solid)
Product Description	
Density / Relative density at 20°C	~1.5 g/cm³ (bulk ~0.9 g/cm³)
Dynamic / Kinematic viscosity	Not relevant (solid)
Concentration	≥ 98%
pH (1% aqueous solution)	~10–11.5 (alkaline)
Vapour density at 20°C	Not relevant *
Partition coefficient n-octanol/water 20°C	<-3 (highly hydrophilic)
Solubility in water at 20°C	Highly soluble (>500 g/L)
Decomposition temperature	>150°C
Melting point/freezing point	>150°C (decomposes)
Flammability	
Flash Point	Non-applicable (solid)
Flammability (solid, gas)	Not readily combustible
Autoignition temperature	Not relevant *
Lower / Upper flammability limit	Not relevant *
Particle Characteristics	
Median equivalent diameter	Typically fine crystalline powder (grade-dependent)

** Not relevant due to the nature of the product (solid, non-volatile), not providing information on the properties of its hazards.*

Other information

Explosive properties	Not relevant *
Oxidising properties	Not an oxidizer
Corrosive to metals	Not classified (alkaline solution may attack some non-ferrous metals over time)
Heat of combustion	Not relevant *
Surface tension at 20°C	Not relevant *
Refraction index	Not relevant *

10. STABILITY AND REACTIVITY

Reactivity

Strong chelating agent; reacts with polyvalent metal cations (calcium, iron, copper, etc.) to form soluble complexes. Aqueous solution is alkaline. No significant reactivity hazard under normal conditions of storage, handling and use.

Chemical stability

Chemically stable under the indicated conditions of storage, handling and use.

Possibility of hazardous reactions

Under the specified conditions, hazardous reactions are not generally expected; see incompatibilities below.

Conditions to avoid

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Not applicable	Avoid elevated temperature/decomposition	Not applicable	Keep dry to avoid caking/degradation

Incompatible materials

Strong Oxidizing Agents	Strong Acids	Polyvalent Metal Salts
Avoid contact	Avoid contact – neutralisation/gas evolution possible	Complexes readily – avoid unintended chelation in process streams

Hazardous decomposition products

Oxides of carbon and nitrogen, and sodium oxides, on thermal decomposition/combustion.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

In case of exposure that is repetitive, prolonged, or at high concentrations, adverse health effects may result depending on the means of exposure:

A. Ingestion (acute effect)

Low-to-moderate acute oral toxicity. Large doses may cause gastrointestinal irritation; chelation of essential minerals (calcium) is a concern mainly at high/chronic doses.

B. Inhalation (acute effect)

Dust may cause irritation of the respiratory tract. Not classified as an acute inhalation toxicity hazard.

C. Contact with skin and eyes (acute effect)

Causes skin irritation and serious eye damage (alkaline pH in solution).

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity)

Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met based on available data. IARC: Not classified.

E. Sensitizing effects

Classification criteria for respiratory or skin sensitisation are not met based on available data.

F. Specific target organ toxicity (STOT) – single exposure

Classification criteria are not met based on available data.

G. Specific target organ toxicity (STOT) – repeated exposure

Classification criteria are not met based on available data.

H. Aspiration hazard

Not applicable (solid).

Product-specific toxicological information

Identification	Acute Toxicity	Genus
EDTA Tetrasodium (EDTA-4Na) CAS: 64-02-8	LD50 oral: ~2000–4000 mg/kg (low acute toxicity)	Rat
	LD50 dermal: >2000 mg/kg	Rabbit

12. ECOLOGICAL INFORMATION

Not classified as acutely hazardous to the aquatic environment under standard GHS criteria; strong chelating action can influence metal speciation/mobility.

Toxicity

Identification	Acute Toxicity	Species	Genus
EDTA Tetrasodium (EDTA-4Na) CAS: 64-02-8	LC50: ~100–200 mg/L (96h, class-typical)	Pimephales promelas	Fish
	EC50: >100 mg/L (48h, class-typical)	Daphnia magna	Crustacean

Persistence and degradability

Poorly biodegradable under standard aerobic conditions (EDTA salts resist microbial breakdown); persistent in the aquatic environment.

Bioaccumulative potential

Low bioaccumulation potential (highly water-soluble, hydrophilic; log Pow <-3).

Mobility in soil

Koc	Henry	Dry Soil	Moist Soil
Low (highly water-soluble)	Negligible	Not applicable (solid)	Highly mobile/soluble

Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of Annex XIII.

Other adverse effects

Not described

13. DISPOSAL CONSIDERATIONS

Disposal methods

Dissolve/dilute with plenty of water and neutralise if necessary; dispose of via a licensed waste treatment facility, or as solid non-hazardous industrial waste in accordance with local regulations (verify local classification). For packaging: empty thoroughly before disposal/recycling.

Refer to national and local regulations on waste management, including the Hazardous and Other Wastes (Management and Transboundary Movement) Rules.

14. TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR 2023 / RID 2023)

14.1 UN number	Not assigned – non-hazardous for transport
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Corrosive to eyes (H318) – label/handle accordingly during transfer though not regulated as a transport dangerous good
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by sea (IMDG 41-22)

14.1 UN number	Not assigned – non-hazardous for transport
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Marine pollutant	No
14.6 Special precautions for user	Non-applicable
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by air (IATA/ICAO 2024)

14.1 UN number	Not assigned – non-hazardous for transport
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Not classified
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	Non-applicable
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
The Chemical Accidents (Emergency Planning, Preparedness, and Response) Rules, 1996
Public Liability Insurance Act, 1991

16. OTHER INFORMATION

Legislation related to safety data sheets

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3

Skin Irrit. 2: H315 – Causes skin irritation.
Eye Dam. 1: H318 – Causes serious eye damage.

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.

Advice related to training

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources

PubChem (National Library of Medicine); European Chemicals Agency (ECHA) classification and labelling inventory; United Nations Economic Commission for Europe (UNECE) Model Regulations; ACGIH Threshold Limit Values.

Abbreviations and acronyms

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | COD: Chemical Oxygen Demand | BOD5: 5-day biochemical oxygen demand | BCF: Bioconcentration factor | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Log-POW: Octanol-water partition coefficient | Koc: Partition coefficient of organic carbon | IARC: International Agency for Research on Cancer

Disclaimer: The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

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