# SAFETY DATA SHEET

## SODIUM CITRATE

**CAS No.: 6132-04-3**

*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**

SODIUM CITRATE
Trisodium citrate dihydrate; Citric acid trisodium salt
**CAS:** 6132-04-3

**Other means of identification**

Not relevant

**Recommended use of the chemical and restrictions on use**

Relevant uses: Buffering/sequestering agent (food, pharmaceutical and industrial grades), textile dyeing auxiliary, water treatment, detergent builder. For industrial user only unless supplied with a specific food/pharma-grade certificate of analysis.

Uses advised against: All uses not specified in this section or in section 7.3.

**Supplier's details**

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**Emergency phone number**

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## 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).

Not classified as hazardous under GHS physical, health or environmental hazard criteria

**GHS label elements, including precautionary statements**

**GHS: Not classified**

**Hazard statements**

Not classified as hazardous under GHS physical, health or environmental hazard criteria.

**Precautionary statements**

P264: Wash hands thoroughly after handling.
General industrial hygiene practices apply.

**Other hazards which do not result in classification**

None known under normal conditions of use. Does not meet the PBT/vPvB criteria.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Substances**

**Chemical description:** Sodium Citrate (technical/industrial grade)

In accordance with Annex 4.3.3 of the GHS, the product contains:

| Identification | Chemical Name / Classification | Concentration |
|---|---|---|
| CAS: 6132-04-3 | Sodium Citrate — Not classified as hazardous under GHS criteria | ≥ 99% |

*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**

Not relevant – treat symptomatically

## 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. Use local exhaust ventilation where dust may be generated.

**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. 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 |
|---|---|---|
| Sodium Citrate<br>CAS: 6132-04-3 | 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**

Protective gloves for general handling.

**D. Eye and face protection**

Safety glasses/goggles.

**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 | ~1.7 g/cm³ (bulk ~0.9 g/cm³) |
| Dynamic / Kinematic viscosity | Not relevant (solid) |
| Concentration | ≥ 99% |
| pH (5% aqueous solution) | ~7.5–9.0 (mildly alkaline) |
| Vapour density at 20°C | Not relevant * |
| Partition coefficient n-octanol/water 20°C | <-3 (highly hydrophilic) |
| Solubility in water at 20°C | ~720 g/L (highly soluble) |
| Decomposition temperature | ~150°C (loses water of crystallisation ~150°C; decomposes at higher temperature) |
| Melting point/freezing point | ~300°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 granular/crystalline (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 |
| Heat of combustion | Not relevant * |
| Surface tension at 20°C | Not relevant * |
| Refraction index | Not relevant * |

## 10. STABILITY AND REACTIVITY

**Reactivity**

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 | Other |
|---|---|---|
| Avoid contact | Reacts to liberate citric acid/$CO_2$ with strong acids | None known |

**Hazardous decomposition products**

Oxides of carbon 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)**
Practically non-toxic; widely used as a food and pharmaceutical additive. Very large doses may cause mild gastrointestinal upset.

**B. Inhalation (acute effect)**
Dust may cause mild, transient irritation of the respiratory tract. Not classified as an acute inhalation toxicity hazard.

**C. Contact with skin and eyes (acute effect)**
Not classified as a skin or eye irritant; may cause mild transient irritation on prolonged contact or with concentrated solutions.

**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 |
|---|---|---|
| Sodium Citrate<br>CAS: 6132-04-3 | LD50 oral: >5000 mg/kg (practically non-toxic) | Rat |
| | LD50 dermal: >2000 mg/kg | Rabbit |

## 12. ECOLOGICAL INFORMATION

**Not classified as hazardous to the aquatic environment; readily biodegradable.**

**Toxicity**

| Identification | Acute Toxicity | Species | Genus |
|---|---|---|---|
| Sodium Citrate<br>CAS: 6132-04-3 | LC50: >100 mg/L (96h, class-typical for citrate salts) | Pimephales promelas | Fish |
| | EC50: >100 mg/L (48h, class-typical) | Daphnia magna | Crustacean |

**Persistence and degradability**

Readily biodegradable under standard aerobic test conditions.

**Bioaccumulative potential**

Negligible bioaccumulation potential (highly water-soluble, hydrophilic).

**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 in water and 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 | Non-applicable – product is not a dangerous good under ADR/RID/IMDG/IATA criteria |
| 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**

*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.

*(This document is computer generated and therefore does not require any signature.)*