



## Specification

**Product Name:** Sodium Citrate

**Product Code:** SPEC0053

### Description:

Sodium Citrate is the sodium salt of Citric Acid. Like Citric Acid and other salts, it has a sour and salty taste. It is commonly known as sour salt, buffer salt or trisodium citrate and is mainly used for flavouring food and drinks or as a preservative. A useful quality of Sodium Citrate is that it reduces the acidity of foods and liquid solutions, so it allows spherification and reverse spherification with strongly acidic ingredients. Sodium Citrate is also used as an antioxidant in food as well as a sequestrant. It dissolves easily and acts instantly. A highly soluble powder.

| Chemical formula:<br>$C_6H_5O_7Na_3 \cdot 2H_2O$ |                                 |      | Mol.Weight:294.10                                            |            | Einecs: 200-675-3      |            | CAS number: 6132-04-3 |                |
|--------------------------------------------------|---------------------------------|------|--------------------------------------------------------------|------------|------------------------|------------|-----------------------|----------------|
| No.                                              | Item                            | Unit | BP2014                                                       | USP37      | E331                   | FCC8       | GB6782-2009           | Taihe Standard |
| 1.                                               | Characters                      |      | Colourless crystals or granulars, white crystalline powders. |            |                        |            |                       |                |
| 2.                                               | Identification                  |      | Pass Test                                                    |            |                        |            |                       |                |
| 3.                                               | Clarity & Colour of Solution    |      | Pass Test                                                    | Pass Test  | /                      | /          | /                     | Pass Test      |
| 4.                                               | Light Transmittance             | %    | /                                                            | /          | /                      | /          | ≥95%                  | ≥95%           |
| 5.                                               | Assay                           | %    | 99.0-101.0                                                   | 99.0-100.5 | ≥99.0                  | 99.0-100.5 | 99.0-100.5            | 99.0-100.5     |
| 6.                                               | Moisture                        | %    | 11.0-13.0                                                    | 10.0-13.0  | ≤13.5                  | 10.0-13.0  | 10.0-13.0             | 11.0-13.0      |
| 7.                                               | Readily Carbonisable Substances |      | Not exceeding standard                                       | /          | Not exceeding standard | /          | ≤1.0                  | Pass Test      |
| 8                                                | Acidity or Alkalinity           |      | Pass Test                                                    | Pass Test  | /                      | Pass Test  | Pass Test             | Pass Test      |
| 9                                                | Sulphate                        | ppm  | ≤150                                                         | /          | ≤150                   | /          | ≤100                  | ≤100           |
| 10                                               | Chloride                        | ppm  | ≤50                                                          | /          | ≤50                    | /          | ≤50                   | ≤50            |
| 11                                               | Oxalate                         | ppm  | ≤300                                                         | /          | ≤100                   | /          | ≤100                  | ≤100           |
| 12                                               | Calcium                         | ppm  | /                                                            | /          | /                      | /          | ≤200                  | ≤200           |
| 13                                               | Iron                            | ppm  | /                                                            | /          | /                      | /          | ≤5                    | ≤5             |
| 14                                               | Tartrate                        | ppm  | /                                                            | Pass Test  | /                      | /          | /                     | Pass Test      |
| 15                                               | Arsenic                         | ppm  | /                                                            | /          | ≤1                     | /          | ≤1                    | ≤1             |
| 16                                               | Lead                            | ppm  | /                                                            | /          | ≤1                     | ≤2         | ≤2                    | ≤1             |

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|               |                           |                         |           |     |         |   |           |           |
|---------------|---------------------------|-------------------------|-----------|-----|---------|---|-----------|-----------|
| 17            | Mercury                   | ppm                     | /         | /   | ≤1      | / | /         | ≤1        |
| 18            | Heavy Metals              | ppm                     | ≤10       | ≤10 | ≤5      | / | /         | ≤5        |
| 19            | Pyrogen                   |                         | Pass Test | /   | /       | / | /         | Pass Test |
| 20            | PH (5% Solution)          |                         | /         | /   | 7.5-9.0 | / | /         | 7.5-9.0   |
| 21            | Water Insoluble Substance |                         | /         | /   | /       | / | Pass Test | Pass Test |
| Particle Size |                           | 10-40 mesh, 30-100 mesh |           |     |         |   |           |           |

**Ingredients:**

Sodium Citrate (E331))

**Dietary Information:**

Suitable for Vegans, Vegetarians, Non-GMO, Gluten Free, Non-Irradiated.

**Storage:**

Store in dry, cool conditions and not in direct sunlight. (Risk of caking if long-term storage).

**Packaging:**

| Size | EAN           |
|------|---------------|
| 50g  | 5056191012143 |
| 100g | 5060341114359 |
| 250g | 5060341114366 |
| 500g | 5060341114373 |
| 5kg  | 5056191004933 |
| 10kg | 5056191004940 |

**Shelf Life:**

48 months from production date.

**Allergen Declaration**

| Allergen                                                                                                    | Contains (Y/N) |
|-------------------------------------------------------------------------------------------------------------|----------------|
| Cereals containing Gluten                                                                                   | N              |
| Crustaceans                                                                                                 | N              |
| Eggs                                                                                                        | N              |
| Fish                                                                                                        | N              |
| Peanuts                                                                                                     | N              |
| Soybeans                                                                                                    | N              |
| Milk                                                                                                        | N              |
| Nuts                                                                                                        | N              |
| Celery                                                                                                      | N              |
| Mustard                                                                                                     | N              |
| Sesame Seeds                                                                                                | N              |
| Sulphur Dioxide and Sulphites (at concentration of more than 10mg/kg or 10mg/L in terms of Sulphur Dioxide) | N              |
| Lupin                                                                                                       | N              |
| Molluscs                                                                                                    | N              |

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## Material Safety Data Sheet

### 1: Identification of the substance/mixture and of the company/undertaking:

#### 1.1 – Product Identifier

Trade Name: Trisodium citrate dihydrate

CAS number: 6132-04-3

EC number: 200-675-3

REACH registration number: 01-2119457027-40-0006

#### 1.2 – Relevant identified uses of the substance or mixture and uses advised against Application of the substance / the preparation:

Intermediate

Formulation

Detergents and cleaning products

Agricultural applications

Personal care products

Paper industry

Construction products

Polymers and plastics

Oil industry

Textile industry

Paints and coatings

Photography products

Laboratory reagents

Water treatment

Treatment of metal surfaces

Medical devices

#### 1.3 – Suppliers Details

Special Ingredients Ltd, 4 Foxwood View, Chesterfield, S41 9RN. Tel: 0044 (0)1246 906247.

E-mail address: <https://specialingredients.co.uk/pages/contact>,

Emergency Telephone Contact: 07701 095864.

#### 1.4 – Emergency Telephone Numbers

NHS Direct: 111

National Poisons Information Service (NPIS): 0121 507 4123 (healthcare professionals only).

Ireland - National Poisons Information Centre: 01 837 9964 or 01 809 2566 (healthcare professionals only).

### 2: Hazard Identification:

#### 2.1 – Classification according to Regulation (EC) No 1272/2008

The substance is not classified, according to the CLP regulation.

#### 2.2 – Label elements

Labelling according to Regulation (EC) No 1272/2008: Not applicable.

Hazard pictograms: Not applicable.

Signal word: Not applicable.

Hazard statements: Not applicable.

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### 2.3 – Other hazards

The substance is not PBT or vPvB.

The substance does not have endocrine disrupting properties.

### 3: Composition and Information on Ingredients:

**Substance name:** Trisodium citrate dihydrate

**CAS number:** 6132-04-3

**EC number:** 200-675-3

**Weight content range (%):** >=99.5

**SCL/M-factor/ATE:** Not applicable.

**Nanoform** Not applicable.

### 4: First Aid Measures:

#### 4.1 – Description of first aid measures

**After inhalation:** Move patient to fresh air, if symptoms persist consult a doctor.

**After skin contact:**

Immediately rinse with water.

If skin irritation continues, consult a doctor.

**After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

**After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

#### 4.2 – Most important symptoms and effects, both acute and delayed

No further relevant information available.

#### 4.3 – Indication of any immediate medical attention and special treatment needed

No further relevant information available.

### 5: Firefighting Measures:

#### 5.1 – Extinguishing media

Use extinguishing measures appropriate to local circumstances and the environment.

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

#### 5.2 – Special hazards arising from the substance or mixture

Carbon monoxide (CO)

Carbon dioxide (CO<sub>2</sub>)

#### 5.3 – Advice for firefighters

**Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

**Additional information:**

Dispose of fire debris and contaminated firefighting water in accordance with official regulations.

### 6: Accidental Release Measures:

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**6.1 – Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Keep unprotected persons away.

**6.2 – Environmental precautions**

Do not allow to enter sewers/ surface or ground water.

**6.3 – Methods and material for containment and cleaning up**

Send for recovery or disposal in suitable receptacles.

Retrieve the product by mechanical means.

**6.4 – Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**7: Handling And Storage:****7.1 – Precautions for safe handling**

Avoid contact with the eyes and skin.

Ensure good ventilation/exhaustion at the workplace.

Provide suction extractors if dust is formed.

Do not inhale dust / smoke / mist.

**Information about fire - and explosion protection:** No special measures required.

**7.2 – Conditions for safe storage, including any incompatibilities****Requirements to be met by storerooms and receptacles:**

Store in cool, dry conditions in well-sealed receptacles.

Store only in the original receptacle.

**Information about storage in one common storage facility:** Not required.

**8: Exposure Controls/ Personal Protection:****8.1 – Control parameters**

**Ingredients with limit values that require monitoring at the workplace:** Not required.

| PNECs |                                                              |
|-------|--------------------------------------------------------------|
| PNEC  | 0.44 mg/L (Water (Freshwater)) (citric acid)                 |
|       | 0.044 mg/L (Water (Marine Water)) (citric acid)              |
|       | 1000 mg/L (Sewage Treatment Plant (STP)) (citric acid)       |
| PNEC  | 3.46 mg/kg sedim. dw (Sediment (Marine Water)) (citric acid) |
|       | 34.6 mg/kg sedim. dw (Sediment (Freshwater)) (citric acid)   |
| PNEC  | 33.1 mg/kg soil dw (Soil) (citric acid)                      |

**Additional information:** The lists valid during the making were used as basis.

**8.2 – Exposure controls**

**Individual protection measures, such as personal protective equipment**

**General protective and hygienic measures:**

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Do not get in eyes, on skin, or on clothing.

Wash hands before breaks and at the end of work.

Do not eat, drink, smoke or sniff while working.

**Respiratory protection:** Use suitable respiratory protective device in case of insufficient ventilation.

**Hand protection:**



Protective Gloves

**Eye/Face protection:**



Safety glasses with side-shields (EN 166).

**Body protection:** Protective work clothing.

## 9: Physical and Chemical Properties:

### 9.1 – Information on basic physical and chemical properties

**Physical state:** Solid

**Colour:** White.

**Odour:** Odourless.

**Odour threshold:** Not determined.

**Melting point/freezing point:** Not applicable.

**Boiling point or initial boiling point and boiling range:** Not applicable.

**Flammability:** Product is not flammable.

**Lower and upper explosion limit**

**Lower:** Not determined.

**Upper:** Not determined.

**Flash point:** Not applicable.

**Decomposition temperature:** 150 °C

**pH:** 7.6 - 9

**Viscosity:**

**Kinematic viscosity:** Not applicable.

**VOC (EC):**

**Dynamic:** Not applicable.

**Solubility**

**Water at 20 °C:** 400-700 g/l

**Partition coefficient n-octanol/water (log value)** -1.6 - -1.8 (citric acid)

**Vapour pressure at 25 °C:** 2.21\*10<sup>-6</sup> Pa (citric acid)

**Density and/or relative density**

**Density at 20 °C:** 1.86 g/cm<sup>3</sup> (trisodium citrate pentahydrate)

**Relative density:** Not determined.

**Vapour density:** Not applicable.

**Particle characteristics** The fraction below 100 µm was 1.7%; the D50 of the fraction below 100 µm was at 53.24 µm.

### 9.2 – Other information

**Appearance:**

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**Form:** Crystalline

**Ignition temperature:** Not determined.

**Explosive properties:** Product does not present an explosion hazard.

**Softening point/range**

**Oxidising properties** Not oxidising.

**Evaporation rate** Not applicable.

**Information with regard to physical hazard classes**

**Explosives** Not applicable.

**Flammable gases** Not applicable.

**Aerosols** Not applicable.

**Oxidising gases** Not applicable.

**Gases under pressure** Not applicable.

**Flammable liquids** Not applicable.

**Flammable solids** Not applicable.

**Self-reactive substances and mixtures** Not applicable.

**Pyrophoric liquids** Not applicable.

**Pyrophoric solids** Not applicable.

**Self-heating substances and mixtures** Not applicable.

**Substances and mixtures, which emit flammable gases in contact with water** Not applicable.

**Oxidising liquids** Not applicable.

**Oxidising solids** Not applicable.

**Organic peroxides** Not applicable.

**Corrosive to metals** Not applicable.

**Desensitised explosives** Not applicable.

## 10: Stability and Reactivity:

### 10.1 – Reactivity

No data available.

### 10.2 – Chemical stability

**Thermal decomposition / conditions to be avoided:** Stable at environment temperature.

### 10.3 – Possibility of hazardous reactions

No dangerous reactions known.

### 10.4 – Conditions to avoid

Keep away from heat and direct sunlight.

Keep away from water/moisture, acids and bases.

### 10.5 – Incompatible materials

Sodium nitrite, potassium nitrite.

### 10.6 – Hazardous decomposition products

Carbon monoxide and carbon dioxide.

## 11: Toxicological Information:

### 11.1 – Hazardous decomposition products

**Acute toxicity** Based on available data, the classification criteria are not met.

|                        |
|------------------------|
| <b>LD/LC50 values:</b> |
|------------------------|



|        |      |                                  |
|--------|------|----------------------------------|
| Oral   | LD50 | 5400 mg/kg (Mouse) (citric acid) |
| Dermal | LD50 | >2000 mg/kg (Rat) (citric acid)  |

**Skin corrosion/irritation:** Based on available data, the classification criteria are not met.

**Serious eye damage/irritation:** Based on available data, the classification criteria are not met.

**Respiratory or skin sensitisation:** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

**Carcinogenicity:** Based on available data, the classification criteria are not met.

**Reproductive toxicity:** Based on available data, the classification criteria are not met.

**STOT-single exposure:** Based on available data, the classification criteria are not met.

**STOT-repeated exposure:** Based on available data, the classification criteria are not met.

**Aspiration hazard:** Based on available data, the classification criteria are not met.

## 11.2 – Information on other hazards

**11.2.1 Endocrine disrupting properties** Substance is not listed.

## 12: Ecological Considerations:

### 12.1 – Toxicity

| Aquatic Toxicity |  |                                         |
|------------------|--|-----------------------------------------|
| LC50/48h         |  | 440 mg/L (LC50/48h Fish) (citric acid)  |
| NOEC             |  | 425 mg/L (Algae) (citric acid)          |
| LC50/24h         |  | 1535 mg/L (Daphnia Magna) (citric acid) |

### 12.2 – Persistence and degradability

Readily biodegradable

### 12.3 – Bioaccumulative potential

Does not accumulate in organisms.

### 12.4 – Mobility in soil

pKa: 3.13, 4.76 and 6.4 at 25 °C (citric acid).

### 12.5 – Results of PBT and vPvB assessment

**PBT:** No PBT.

**vPvB:** No vPvB.

### 12.6 – Endocrine disrupting properties

For information on endocrine disrupting properties see section 11.

### 12.7 – Other adverse effects

No further relevant information available.

## 13: Disposal considerations:

### 13.1 – Waste treatment methods

**Recommendation:** Must be specially treated adhering to official regulations.

**Uncleaned packaging:**

**Recommendation:**

Disposal must be made in accordance with official regulations.

Packaging that may not be cleansed must be disposed of in the same manner as the product.

**14: Transport Information:****14.1 – UN number or ID Number**

ADR, ADN, IMDG, IATA Not applicable.

**14.2 – Proper Shipping Name**

ADR, ADN, IMDG, IATA Not applicable.

**14.3 – Transport hazard class(es)**

ADR, ADN, IMDG, IATA

Class Not applicable.

**14.4 – Packing group**

ADR, ADN, IMDG, IATA Not applicable.

**14.5 – Environmental hazards**

Marine pollutant: No

**14.6 – Special precautions for user**

Not applicable

**14.7 – Maritime transport in bulk according to IMO instruments**

Not applicable.

**15: Regulatory Information:****15.1 – Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

**15.2 – Chemical safety assessment**

A Chemical Safety Assessment has been carried out.

**16: Other Information:**

Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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