Basekim
Chemical Production Co.Ltd

Technical Data Sheet (TDS)

Food Grade Trisodium Citrate

1. Product Identification

Product Name: Food Grade Trisodium Citrate
Chemical Name: Trisodium Citrate / Sodium Citrate Tribasic
E Number: E331(iii)
CAS No. (Dihydrate): 6132-04-3
CAS No. (Anhydrous): 68-04-2
Chemical Formula (Dihydrate): $C_6H_5Na_3O_7 \cdot 2H_2O$
Chemical Formula (Anhydrous): $C_6H_5Na_3O_7$
Grade: Food Grade
Supplier: Basekim

2. Product Description

Food Grade Trisodium Citrate is a white crystalline powder or granular material widely used as an acidity regulator, buffering agent, emulsifying salt, stabilizer, and sequestrant in food and beverage formulations.

It offers excellent water solubility and helps manufacturers control pH, improve texture, stabilize emulsions, and maintain consistent product quality.

The product is commonly available in both **dihydrate** and **anhydrous** forms.

3. Typical Technical Specifications

Parameter	Typical Specification
Appearance	White crystalline powder or crystals
Assay	99.0–101.0%
Identification	Conforms
pH (5% Solution)	7.5–9.0
Solubility in Water	Freely soluble
Loss on Drying – Dihydrate	10.0–13.0%
Moisture – Anhydrous	Typically ≤1.0%
Oxalate	Typically ≤100 mg/kg

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Parameter	Typical Specification
Chloride	Typically ≤50 mg/kg
Sulfate	Typically ≤150 mg/kg
Heavy Metals	Conforms to applicable food-grade limits
Lead (Pb)	Typically ≤2 mg/kg
Arsenic (As)	Typically ≤1 mg/kg
Mercury (Hg)	Typically ≤1 mg/kg
Color	White
Odor	Practically odorless

Specifications may vary according to manufacturer, product form, and applicable regulatory standard.

4. Functional Properties

Food Grade Trisodium Citrate provides several important functions in food processing:

- Acidity regulation
- pH buffering
- Calcium sequestration
- Emulsification support
- Flavor balancing
- Product stabilization
- Texture improvement
- Mineral interaction control

Its strong buffering properties make it particularly useful in applications that require stable acidity levels.

5. Main Applications

Food Grade Trisodium Citrate is widely used in:

- Processed cheese
- Cheese sauces
- Dairy products
- Soft drinks

- Carbonated beverages
- Fruit beverages
- Sports and energy drinks
- Confectionery
- Jams and jellies
- Sauces and dressings
- Desserts
- Powdered beverage mixes
- Ready-to-eat food formulations

In processed cheese, it functions as an emulsifying salt and helps improve texture, melting behavior, and fat distribution.

6. Advantages

Key advantages include:

- High water solubility
- Reliable buffering performance
- Consistent pH control
- Effective calcium binding
- Good formulation compatibility
- Easy incorporation into food systems
- Suitable for dry and liquid formulations
- Stable under recommended storage conditions

7. Recommended Usage

The required dosage depends on:

- Food category
- Desired pH
- Formulation composition
- Processing conditions
- Target texture
- Applicable regulatory limits

Manufacturers should determine the optimum dosage through formulation trials and comply with local food-additive regulations.

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8. Packaging

Food Grade Trisodium Citrate is commonly supplied in:

25 kg net bags with food-compatible inner lining

Alternative packaging options may be available depending on order quantity and customer requirements.

9. Storage Conditions

Store the product in a:

- Cool and dry area
- Clean food-grade warehouse
- Well-ventilated environment
- Tightly sealed original package

Protect the product from:

- Moisture
- Direct sunlight
- Excessive heat
- Contamination
- Strong odors

Proper storage helps maintain product quality and free-flowing properties.

10. Shelf Life

Typical shelf life is **24 months** from the manufacturing date when stored in unopened original packaging under recommended conditions.

Actual shelf life should be confirmed from the batch-specific supplier documentation.

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11. Quality Documentation

Upon request, buyers may obtain relevant documentation such as:

- Technical Data Sheet
- Safety Data Sheet
- Certificate of Analysis
- Food Grade Declaration
- Certificate of Origin
- Packing List
- Batch-specific quality documentation

12. Commercial Information

For a quotation, customers should provide:

- Required form: Anhydrous or Dihydrate
- Required specification
- Order quantity
- Packaging preference
- Destination country or port
- Incoterms
- Required certificates

Supplier: Basekim