



# SODIUM CITRATE

MSDS Number: S3386 --- *Effective Date: 01/02/2004*

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## 1. Product Identification

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**Synonyms:** Citrosodine; trisodium citrate; citric acid, trisodium salt; 2-hydroxy-1,2,3-propanetricarboxylic acid, trisodium salt, dihydrate; sodium citrate dihydrate

**CAS No.:** 68-04-2

**Molecular Weight:** 294.10

**Chemical Formula:** HOC (COONa) (CH<sub>2</sub>COONa)<sub>2</sub>.2H<sub>2</sub>O

## 2. Composition/Information on Ingredients

| Ingredient     | CAS No  | Percent   | Hazardous |
|----------------|---------|-----------|-----------|
| Sodium Citrate | 68-04-2 | 90 - 100% | Yes       |

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## 3. Hazards Identification

### Emergency Overview

**CAUTION! MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.**

Health Rating: 0 - None

Flammability Rating: 0 - None

Reactivity Rating: 0 - None

Contact Rating: 1 - Slight

Lab Protective Equip: GOGGLES; LAB COAT

Storage Color Code: Orange (General Storage)

### Potential Health Effects

#### Inhalation:

Inhalation of large amounts of dust may cause irritation to the respiratory tract.

#### Ingestion:

Extremely large oral dosages may produce gastrointestinal disturbances.

#### Skin Contact:



Possible irritation on prolonged contact with moist or sensitive areas of the skin.

**Eye Contact:**

No adverse effects expected but dust may cause mechanical irritation.

**Chronic Exposure:**

No information found.

**Aggravation of Pre-existing Conditions:**

No information found.

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## 4. First Aid Measures

**Inhalation:**

Remove to fresh air. Get medical attention for any breathing difficulty.

**Ingestion:**

Give several glasses of water to drink to dilute. If large amounts were swallowed, get medical advice.

**Skin Contact:**

Wash exposed area with soap and water. Get medical advice if irritation develops.

**Eye Contact:**

Wash thoroughly with running water. Get medical advice if irritation develops.

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## 5. Fire Fighting Measures

**Fire:**

As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

**Explosion:**

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

**Fire Extinguishing Media:**

Water spray, dry chemical, alcohol foam, or carbon dioxide.

**Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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## 6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that



does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container.

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## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

### **Airborne Exposure Limits:**

- OSHA Permissible Exposure Limit (PEL):

15 mg/m<sup>3</sup> total dust, 5 mg/m<sup>3</sup> respirable fraction for nuisance dusts.

- ACGIH Threshold Limit Value (TLV):

10 mg/m<sup>3</sup> total dust containing no asbestos and < 1% crystalline silica for Particulates Not Otherwise Classified (PNOC).

### **Ventilation System:**

In general, dilution ventilation is a satisfactory health hazard control for this substance. However, if conditions of use create discomfort to the worker, a local exhaust system should be considered.

### **Personal Respirators (NIOSH Approved):**

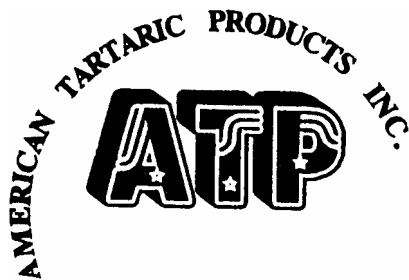
If the exposure limit is exceeded, a half-face dust/mist respirator may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece dust/mist respirator may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

### **Skin Protection:**

Wear protective gloves and clean body-covering clothing.

### **Eye Protection:**

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.



## 9. Physical and Chemical Properties

**Appearance:**

White crystals.

**Odor:**

Odorless.

**Solubility:**

72 g/100 g of water.

**Density:**

ca. 1.7

**pH:**

ca. 8.0

**% Volatiles by volume @ 21C (70F):**

0

**Boiling Point:**

Decomposes at red heat.

**Melting Point:**

150C (302F)

**Vapor Density (Air=1):**

No information found.

**Vapor Pressure (mm Hg):**

No information found.

**Evaporation Rate (BuAc=1):**

Not applicable.

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## 10. Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:**

Carbon dioxide and carbon monoxide may form when heated to decomposition.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Strong oxidizers.

**Conditions to Avoid:**

Heat, flame, ignition sources, dusting and incompatibles.

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## 11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.

Cancer Lists

| Ingredient               | ---NTP Carcinogen--- |             | IARC Category |
|--------------------------|----------------------|-------------|---------------|
|                          | Known                | Anticipated |               |
| Sodium Citrate (68-04-2) | No                   | No          | None          |

## 12. Ecological Information

**Environmental Fate:**

No information found.

**Environmental Toxicity:**

No information found.

## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

Not regulated.

## 15. Regulatory Information

Chemical Inventory Status - Part 1

| Ingredient               | TSCA | EC  | Japan | Australia |
|--------------------------|------|-----|-------|-----------|
| Sodium Citrate (68-04-2) | Yes  | Yes | Yes   | Yes       |

Chemical Inventory Status - Part 2

--Canada--

Ingredient

|                          | Korea | DSL | NDSL | Phil. |
|--------------------------|-------|-----|------|-------|
| Sodium Citrate (68-04-2) | Yes   | Yes | No   | Yes   |

Federal, State & International Regulations - Part 1

-SARA 302-      -----SARA 313-----



| Ingredient               | RQ | TPQ | List | Chemical Catg. |
|--------------------------|----|-----|------|----------------|
| Sodium Citrate (68-04-2) | No | No  | No   | No             |

Federal, State & International Regulations - Part 2

| Ingredient               | CERCLA | -RCRA- | -TSCA- |
|--------------------------|--------|--------|--------|
| Sodium Citrate (68-04-2) | No     | 261.33 | 8 (d)  |

No No No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No  
SARA 311/312: Acute: No Chronic: No Fire: No Pressure: No  
Reactivity: No (Mixture / Solid)

**Australian Hazchem Code:** No information found.

**Poison Schedule:** No information found.

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

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## 16. Other Information

**NFPA Ratings:** Health: 1 Flammability: 0 Reactivity: 0

**Label Hazard Warning:**

CAUTION! MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

**Label Precautions:**

Avoid contact with eyes, skin and clothing.

Avoid breathing dust.

Use with adequate ventilation.

Keep container closed.

Wash thoroughly after handling.

**Label First Aid:**

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists. If inhaled, remove to fresh air. Get medical attention for any breathing difficulty.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

No changes.

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