



<b>MSDS</b>	<b>Material Safety Data Sheet</b>	24 Hour Emergency Telephone: 908-859-2151 CHEMTREC: 1-800-424-9300	
		National Response in Canada CANUTEC: 613-996-6666	
		Outside U.S. and Canada Chemtrec: 703-527-3887	
		<b>NOTE:</b> CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.	
From: Mallinckrodt Baker, Inc. 222 Red School Lane Phillipsburg, NJ 08865		 <b>Mallinckrodt CHEMICALS</b>	
All non-emergency questions should be directed to Customer Service (1-800-582-2637) for assistance.			

## SODIUM CITRATE

### 1. Product Identification

**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 (Anhydrous); 6132-04-3 (Dihydrate)

**Molecular Weight:** 294.10

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

**Product Codes:**

J.T. Baker: 3646, 3647, 3648, 3649, 3650, 4093

Mallinckrodt: 0634, 0734, 0754, 7773

### 2. Composition/Information on Ingredients

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

### 3. Hazards Identification

#### Emergency Overview

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

**SAF-T-DATA<sup>(tm)</sup>** Ratings (Provided here for your convenience)

Health Rating: 1 - Slight

Flammability Rating: 1 - Slight

Reactivity Rating: 0 - None

Contact Rating: 1 - Slight

Lab Protective Equip: GOGGLES; LAB COAT; PROPER GLOVES

Storage Color Code: Green (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.

## 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:**

None established.

**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):**

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face 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.

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## 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

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## 12. Ecological Information

**Environmental Fate:**  
No information found.  
**Environmental Toxicity:**  
No information found.

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## 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.

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## 14. Transport Information

Not regulated.

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## 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\-----				
Ingredient	---Canada---			
	Korea	DSL	NDSL	Phil.
Sodium Citrate (68-04-2)	Yes	Yes	No	Yes
-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302-		-SARA 313-	
	RQ	TPQ	List	Chemical Catg.

Sodium Citrate (68-04-2)	No	No	No	No
-----\Federal, State & International Regulations - Part 2\-----				
Ingredient	CERCLA	-RCRA- 261.33	-TSCA- 8(d)	
Sodium Citrate (68-04-2)	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 (Pure / Solid)

**Australian Hazchem Code:** None allocated.

**Poison Schedule:** None allocated.

**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.

## 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.

**Disclaimer:**

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