

MSDS Number: **S4970** \* \* \* \* \* *Effective Date: 11/10/05* \* \* \* \* \* *Supersedes: 02/18/03*



From: Mallinckrodt Baker, Inc.  
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Phillipsburg, NJ 08865



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

NOTE: 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.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

# Sodium meta-Silicate, 9-Hydrate, Crystal

## 1. Product Identification

**Synonyms:** Disodium Metasilicate, 9-Hydrate; Water Glass  
**CAS No.:** 6834-92-0 (Anhydrous) 13517-24-3 (Nonahydrate)  
**Molecular Weight:** 284.2  
**Chemical Formula:** Na<sub>2</sub>SiO<sub>3</sub>·9H<sub>2</sub>O  
**Product Codes:** 3868

## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
Hazardous		
-----	-----	-----
-----		
Sodium Metasilicate	6834-92-0	90 - 100%
Yes		

## 3. Hazards Identification

## Emergency Overview

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**DANGER! CORROSIVE. HARMFUL IF SWALLOWED OR INHALED. CAUSES SEVERE BURNS TO EVERY AREA OF CONTACT. CAUSES SEVERE IRRITATION TO RESPIRATORY TRACT.**

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

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Health Rating: 2 - Moderate

Flammability Rating: 0 - None

Reactivity Rating: 1 - Slight

Contact Rating: 3 - Severe (Corrosive)

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD;  
PROPER GLOVES

Storage Color Code: White (Corrosive)

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## Potential Health Effects

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### **Inhalation:**

Severe irritant. Effects from inhalation of dust or mist vary from mild irritation to serious damage of the upper respiratory tract, depending on severity of exposure. Severe pneumonitis may occur.

### **Ingestion:**

Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach, leading to death. Can cause sore throat, vomiting, diarrhea.

### **Skin Contact:**

Corrosive! Contact with skin can cause irritation or severe burns and scarring with greater exposures.

### **Eye Contact:**

Corrosive. Can cause blurred vision, redness, pain, severe tissue burns and eye damage.

### **Chronic Exposure:**

Prolonged contact with dilute solutions or dust has a destructive effect upon tissue.

### **Aggravation of Pre-existing Conditions:**

Persons with pre-existing skin, eye or respiratory problems may be more susceptible to the effects of this substance.

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## 4. First Aid Measures

### **Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

### **Ingestion:**

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give

anything by mouth to an unconscious person. Get medical attention immediately.

**Skin Contact:**

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

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## 5. Fire Fighting Measures

**Fire:**

Not considered to be a fire hazard.

**Explosion:**

Not considered to be an explosion hazard.

**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire.

**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

Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust. Do not flush caustic residues to the sewer. Residues from spills can be diluted with water, neutralized with dilute acid such as acetic, hydrochloric or sulfuric. Absorb neutralized caustic residue on clay, vermiculite or other inert substance and package in a suitable container for disposal.

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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. Always add the caustic to water while stirring; never the reverse. 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:**

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

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

For conditions of use where exposure to the substance is apparent and engineering controls are not feasible, consult an industrial hygienist. 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 impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

### **Eye Protection:**

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

### **Appearance:**

White platelets.

### **Odor:**

Odorless.

### **Solubility:**

Appreciable (> 10%)

### **Specific Gravity:**

No information found.

### **pH:**

No information found.

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

0

### **Boiling Point:**

No information found.

### **Melting Point:**

No information found.

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

No information found.

### **Vapor Pressure (mm Hg):**

No information found.

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

No information found.

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## 10. Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:**

Forms sodium ions and silicic acid when heated to decomposition.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Fluorine.

**Conditions to Avoid:**

No information found.

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## 11. Toxicological Information

For anhydrous material: Oral rat LD50: 1153 mg/kg; standard Draize, skin, human, 250 mg/24-hour, severe. Investigated as a reproductive effector.

-----\Cancer Lists\-----

Ingredient Category	---NTP Carcinogen---		IARC
	Known	Anticipated	
Sodium Metasilicate (6834-92-0)	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 facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. 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

### Domestic (Land, D.O.T.)

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**Proper Shipping Name:** DISODIUM TRIOXOSILICATE  
**Hazard Class:** 8  
**UN/NA:** UN3253  
**Packing Group:** III  
**Information reported for product/size:** 225LB

### International (Water, I.M.O.)

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**Proper Shipping Name:** DISODIUM TRIOXOSILICATE  
**Hazard Class:** 8  
**UN/NA:** UN3253  
**Packing Group:** III  
**Information reported for product/size:** 225LB

## 15. Regulatory Information

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-----\Chemical Inventory Status - Part 1\-----
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Ingredient                                TSCA  EC    Japan
Australia
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-
Sodium Metasilicate (6834-92-0)          Yes  Yes  Yes    Yes

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-----\Chemical Inventory Status - Part 2\-----
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Ingredient                                Korea  DSL    NDSL  Phil.
-----
Sodium Metasilicate (6834-92-0)          Yes   Yes   No    Yes

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-----\Federal, State & International Regulations - Part 1\-----
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		-SARA 302-		-----SARA 313-----	
Ingredient	Catg.	RQ	TPQ	List	Chemical
-----					
Sodium Metasilicate (6834-92-0)		No	No	No	No
-----\Federal, State & International Regulations - Part 2\-----					
		-RCRA-		-TSCA-	
Ingredient		CERCLA	261.33	8 (d)	
-----					
Sodium Metasilicate (6834-92-0)		No	No	No	No

Chemical Weapons Convention: No      TSCA 12(b): No      CDTA: No  
SARA 311/312: Acute: Yes      Chronic: Yes      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: **3** Flammability: **0** Reactivity: **0**

**Label Hazard Warning:**

DANGER! CORROSIVE. HARMFUL IF SWALLOWED OR INHALED. CAUSES SEVERE BURNS TO EVERY AREA OF CONTACT. CAUSES SEVERE IRRITATION TO RESPIRATORY TRACT.

**Label Precautions:**

- Do not get in eyes, on skin, or on clothing.
- Do not breathe dust.
- Keep container closed.
- Use only with adequate ventilation.
- 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 while removing contaminated clothing and shoes. Wash clothing before reuse. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases get medical attention immediately.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

No Changes.

**Disclaimer:**

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