

## Material Safety Data Sheet

Date Printed: 19/MAY/2005  
Date Updated: 13/MAR/2004  
Version 1.4  
According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

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#### 1 - Product and Company Information

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Product Name	SODIUM METASILICATE
Product Number	307815
Company	Sigma-Aldrich Pty, Ltd Unit 2, 14 Anella Avenue Castle Hill NSW 1765 Australia
Technical Phone #	+61 2 9841 0555
Fax	+61 2 9841 0500
Emergency Phone #	+61 2 9841 0566

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#### 2 - Composition/Information on Ingredients

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Product Name	CAS #	EC no	Annex I Index Number
SODIUM METASILICATE	6834-92-0	229-912-9	014-010-00-8
Formula	Na <sub>2</sub> SiO <sub>3</sub>		
Molecular Weight	122.06 AMU		
Synonyms	B-W * Crystamet * Disodium metasilicate * Disodium monosilicate * Metso 20 * Metso beads 2048 * Metso beads, drymet * Metso pentabead 20 * Orthosil * Sodium metasilicate * Sodium metasilicate, anhydrous * Sodium silicate * Water glass		

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#### 3 - Hazards Identification

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SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT  
Causes burns. Irritating to respiratory system.

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#### 4 - First Aid Measures

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##### AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give  
artificial respiration. If breathing is difficult, give oxygen.

##### AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for  
at least 15 minutes. Remove contaminated clothing and shoes.  
Call a physician.

##### AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of  
water for at least 15 minutes. Assure adequate flushing by  
separating the eyelids with fingers. Call a physician.

## AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately. Do not induce vomiting.

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## 5 - Fire Fighting Measures

### EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

### SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

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## 6 - Accidental Release Measures

### PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

### ENVIRONMENTAL PRECAUTION(S)

Avoid contaminating water supply. Avoid contaminating sewers and waterways with this material.

### METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

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## 7 - Handling and Storage

### HANDLING

Directions for Safe Handling: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

### STORAGE

Conditions of Storage: Keep tightly closed.

### SPECIAL REQUIREMENTS: Hygroscopic.

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## 8 - Exposure Controls / Personal Protection

### ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

### GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

### PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

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## 9 - Physical and Chemical Properties

Appearance

Physical State: Solid

Color: White  
Form: Powder

Property	Value	At Temperature or Pressure
pH	14	
BP/BP Range	N/A	
MP/MP Range	N/A	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	N/A	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water:Complete	

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## 10 - Stability and Reactivity

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### STABILITY

Stable: Stable.

Conditions to Avoid: Moisture.

Materials to Avoid: Strong acids, Lead, Tin/tin oxides, Zinc, Aluminum.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Sodium/sodium oxides, Silicon oxide.

### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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## 11 - Toxicological Information

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RTECS NUMBER: VV9275000

### ACUTE TOXICITY

LD50

Oral

Rat

1153 mg/kg

Remarks: Gastrointestinal: Ulceration or bleeding from stomach.

Gastrointestinal: Ulceration or bleeding from duodenum.

Gastrointestinal: Ulceration or bleeding from small intestine.

LD50

Oral

Mouse

770 mg/kg

Remarks: Gastrointestinal: Ulceration or bleeding from stomach.

Gastrointestinal: Ulceration or bleeding from duodenum.

Gastrointestinal: Ulceration or bleeding from small intestine.

#### IRRITATION DATA

Skin

Human

250 mg

24H

Remarks: Severe irritation effect

Skin

Rabbit

250 mg

24H

Remarks: Severe irritation effect

Skin

Guinea pig

250 mg

24H

Remarks: Moderate irritation effect

#### SIGNS AND SYMPTOMS OF EXPOSURE

Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

#### ROUTE OF EXPOSURE

Skin Contact: Causes burns.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes burns.

Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: Harmful if swallowed.

#### CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat

Dose: 15 GM/KG

Route of Application: Oral

Exposure Time: (14W MALE/14W PRE-3W POST)

Result: Effects on Newborn: Stillbirth. Effects on Newborn: Live birth index (# fetuses per litter; measured after birth).

Effects on Newborn: Weaning or lactation index (e.g., # alive at weaning per # alive at day 4).

Species: Rat

Dose: 9766 UG/KG

Route of Application: Subcutaneous

Exposure Time: (1D MALE)

Result: Paternal Effects: Testes, epididymis, sperm duct.

Species: Rat

Dose: 9766 UG/KG  
Route of Application: Intratesticular  
Exposure Time: (1D MALE)  
Result: Paternal Effects: Testes, epididymis, sperm duct.

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## 12 - Ecological Information

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No data available.

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## 13 - Disposal Considerations

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### SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

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## 14 - Transport Information

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### RID/ADR

UN#: 3253  
Class: 8  
PG: III  
Proper Shipping Name: Disodium trioxosilicate

### IMDG

UN#: 3253  
Class: 8  
PG: III  
Proper Shipping Name: Disodium trioxosilicate  
Marine Pollutant: No  
Severe Marine Pollutant: No

### IATA

UN#: 3253  
Class: 8  
PG: III  
Proper Shipping Name: Disodium trioxosilicate  
Inhalation Packing Group I: No

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## 15 - Regulatory Information

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### CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 014-010-00-8

INDICATION OF DANGER: C

Corrosive.

R-PHRASES: 34 37

Causes burns. Irritating to respiratory system.

S-PHRASES: 13 36/37/39 45

Keep away from food, drink, and animal feedingstuffs. Wear suitable protective clothing, gloves, and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### COUNTRY SPECIFIC INFORMATION

#### Germany

WGK: 1

#### SWITZERLAND

SWISS POISON CLASS: 3

**WARRANTY**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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