

## MATERIAL SAFETY DATA SHEET SODIUM META-SILICATE, NONAHYDRATE MSDS

### 1: Chemical Product and Company Identification

Product Name: Sodium meta-Silicate, Nonahydrate

Catalogue Codes: SLS3394

CAS#: 13517-24-3

RTECS: VV9275000 (for Sodium Metasilicate, anhydrous -

CAS no. 6834-92-0)

TSCA: TSCA 8(b) inventory: No products were found.

CI#: Not available.

Synonym: Water Glass; Crysmet; Silicic acid (H<sub>2</sub>SiO<sub>3</sub>), disodium salt, nonahydrate; Disodium metasilicate, nonahydrate; Sodium Metasilicate, nonahydrate; Disodium trioxosilicate, nonahydrate; Sodium silicate, nonahydrate

Chemical Name: Silicic acid, sodium salt, nonahydrate

Chemical Formula: Na<sub>2</sub>-Si-O<sub>3</sub>.9H<sub>2</sub>O

### 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Sodium meta-Silicate, Nonahydrate	13517-24-3	100

Toxicological Data on Ingredients: Sodium meta-Silicate, anhydrous (CAS no. 6834-92-0): ORAL (LD50): Acute: 1153 mg/ kg [Rat]. 770 mg/kg [Mouse]. (Registry of Toxic Effects of Chemical Substances) ORAL (LD50): Acute: 1280 mg/kg [Rat]. 2400 mg/kg [Mouse]. (Hazardous Substance Data Bank)

### 3: Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (corrosive), of eye contact (corrosive). The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastrointestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe overexposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to mucous membranes, skin, eyes. Repeated or prolonged exposure to the substance can produce target organs damage.

Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

#### **4: First Aid Measures**

##### Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

##### Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

##### Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

##### Inhalation:

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

##### Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

##### Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

#### **5: Fire and Explosion Data**

Flammability of the Product:	Non-flammable.
Auto-Ignition Temperature:	Not applicable.
Flash Points:	Not applicable.
Flammable Limits:	Not applicable.
Products of Combustion:	Not available.
Fire Hazards in Presence of Various Substances:	Not applicable.
Explosion Hazards in Presence of Various Substances:	
Risks of explosion of the product in presence of mechanical impact:	Not available.
Risks of explosion of the product in presence of static discharge:	Not available.
Fire Fighting Media and Instructions:	Not applicable.
Special Remarks on Fire Hazards:	Sodium metasilicate ignites in Fluorine
Special Remarks on Explosion Hazards:	Not available.

#### **6: Accidental Release Measures**

##### **Small Spill:**

Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid.

##### Large Spill:

Corrosive solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapours. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal.

Neutralize the residue with a dilute solution of acetic acid.

## 7: Handling and Storage

### Precautions:

Keep container dry. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as metals, acids.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

## 8: Exposure Controls/Personal Protection

### Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### Personal Protection:

Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

### Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

## 9: Physical and Chemical Properties

Physical state and appearance:	Solid. (Crystals solid.)
odour:	Not available.
Taste:	Not available.
Molecular Weight:	284.2 g/mole
Colour:	White.
pH (1% soln/water):	13 [Basic.]
Boiling Point:	100°C (212°F)
Melting Point:	48°C (118.4°F) in water of crystallization.
Critical Temperature:	Not available.
Specific Gravity:	Not available.
Vapor Pressure:	Not applicable.
Vapor Density:	Not available.
Volatility:	Not available.
odour Threshold:	Not available.
Water/Oil Dist. Coeff.:	Not available.
Iconicity (in Water):	Not available.
Dispersion Properties:	See solubility in water.
Solubility:	Easily soluble in cold water, hot water. Soluble in dilute Sodium Hydroxide. Insoluble in alcohol, acids.

## 10: Stability and Reactivity Data

Stability:	The product is stable.
Instability Temperature:	Not available.
Conditions of Instability:	Incompatible materials
Incompatibility with various substances:	Reactive with metals, acids.
Corrosivity:	Not available.
Special Remarks on Reactivity:	Solutions sodium metasilicate, when heated and acidified, are hydrolysed to free sodium and silicic acid.
Special Remarks on Corrosivity:	Not available.
Polymerization:	Will not occur.

## 11: Toxicological Information

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals:

LD50: Not available. LC50: Not available.

Chronic Effects on Humans: May cause damage to the following organs: mucous membranes, skin, eyes.

Other Toxic Effects on Humans:

Very hazardous in case of skin contact (irritant), of ingestion, Hazardous in case of inhalation. Slightly hazardous in case of skin contact (corrosive), of eye contact (corrosive).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Corrosive!

Skin: Causes severe irritation or burns depending on length and amount of exposure.

Eyes: Causes eye burns. May cause chemical conjunctivitis and corneal damage.

Inhalation: Causes chemical burns to the respiratory tract.

Ingestion: May be harmful if swallowed. Causes nausea, vomiting, gastrointestinal tract ulceration or bleeding (bleeding from the stomach, duodenum, small intestine), burns. May affect kidneys (renal failure, acute tubular necrosis, haematuria), respiration.

Chronic Potential Health Effects: Skin: Repeated or prolonged skin contact can cause ulcerative allergic contact dermatitis.

## 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short-term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

## 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

#### **14: Transport Information**

DOT Classification: Class 8: Corrosive material

Identification: Disodium trioxosilicate UNNA: 3253 PG: III

Special Provisions for Transport:

Passenger Aircraft/Railcar (Maximum Quantity): 25 kg Cargo Aircraft (Maximum Quantity): 100 kg.

#### **15: Other Regulatory Information**

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). China:

National Inventory Japan:

National Inventory (ENCS) Sodium Metasilicate, anhydrous (CAS no. 6834-92-0) is listed on the Canadian DSL. Sodium

Metasilicate, nonahydrate (CAS no. 13517-24-3) is not listed on the Canadian DSL.

Protective Equipment:

Gloves. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear

appropriate respirator when ventilation is inadequate. Splash goggles.

#### **16: Other Information**

References: Not available.

Other Special Considerations: Not available

#### **EXCLUSION OF LIABILITY**

All information and instructions provided in this Material Safety Data Sheet in respect of the substance is given solely in terms of the provisions of the Occupational Health and Safety Act No 85 of 1993

and Regulations ("the Act"), is based on scientific and technical knowledge as at the date indicated on this MS Material Safety Data Sheet and is presented in good faith to be correct.

The information and instructions provided in this MSDS apply only to the substance in its present form and not to any formulation or mix, in which event it is the sole responsibility of the user of the substance as formulated and/or mixed to investigate and establish any danger which may arise out of its use, wherever such user may be situated.

It is the sole responsibility of the person in receipt of this Material Safety Data Sheet wherever such recipient may be situated, to ensure that the information provided is communicated to and understood by any person who may come in contact with the substance in any place and in any manner whatsoever. If such recipient produces formulations or mixes using the substance, then it is such recipient's sole responsibility to comply with the provisions of the Act in respect of the provision of the necessary Material Safety Data Sheet, or to comply with any other applicable legislation.