

Safety Data Sheet

Issued Date: May 21, 2015

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Version 1

1. IDENTIFICATION

Product Identifier

Product Name F-402 Sodium Orthosilicate

Other means of identification

Product Code F-402

Recommended use of the chemical and restrictions on use

Recommended Use Alkali Builder for Industrial Use

Details of the supplier of the safety data sheet

Missouri Vocational Enterprises
2727 Highway K
Bonne Terre, MO 63628
Phone: (573) 358-5516

Emergency Telephone Number

INFOTRAC 1-800-535-5053 (North America)
1-352-323-3500 (International)

2. HAZARDOUS IDENTIFICATION

Signal Word DANGER

Classification	Hazard Category
Skin - Corrosion/Irritation	1A
Serious Eye - Damage/Irritation	1
Acute Toxicity - Oral	4
Acute Toxicity - Dermal	N/A
Acute Toxicity - Inhalation	N/A
Specific Target Organ Toxicity - Single Exposure	3

Health Hazard Statement(s)

H290 – May be corrosive to metals
H302 – Harmful if swallowed
H314 – Causes severe skin burns and eye damage
H318 – Causes serious eye damage
H335 – May cause respiratory irritation

Hazard Pictogram(s)



Hazard Ratings	HMIS	NFPA
Health	3	3
Flammability	0	0
Reactivity	0	0
PPE	N/A	N/A

Precautionary Statement(s)

P234 – Keep only in original container.
P260 – Do not breathe dust/fume/gas/mist/vapors/spray.
P264 – Wash thoroughly after handling.
P270 – Do not eat, drink or smoke when using this product.

P271 – Use only outdoors or in a well-ventilated area.

P280 – Wear gloves, protective clothing, eye and face protection.

P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 – Immediately call a POISON CENTER or doctor/physician.

P301+P330+P331 – If SWALLOWED: Rinse mouth. DO NOT induce vomiting.

P303+P361+P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P363 – Wash contaminate clothing before reuse.

P304+P340 – Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P309+P311 – IF exposed you feel unwell: Call a POISON CENTER or doctor/physician immediately.

P405 – Store locked up.

P406 – Store in a corrosive resistant container with a resistant inner liner (NOTE: flammable hydrogen gas may be generated if aluminum container and/or aluminum fittings are used with dissolved material).

P403+P233 – Store in a well-ventilated place. Keep container tightly closed.

P501 – Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations.

Potential Health Effects

Skin Contact	Danger: Corrosive: May cause severe irritation or severe burns and scarring with greater exposure
Eye Contact	Danger: Corrosive: May cause burns to eye tissue. Liquid contact with eyes produce severe irritation/burns and with possible blindness resulting
Inhalation	May cause severe irritation of the upper respiratory tract
Ingestion	May cause severe burns of the mouth, throat, and stomach. Severe scarring of tissue and death may result. Damage may appear days after exposure.

3. COMPOSITION/INFORMATION ON INGREDIENT

Chemical Name/Pure Substance	CAS #	Weight-%
Sodium Metasilicate	6834-92-0	58-61
Sodium Hydroxide	1310-73-2	37-40
Sodium Carbonate	497-19-8	0-2
Water	7732-18-5	0-3

**If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

General Advice	If you feel unwell, seek medical advice (show label where possible).
Eye Contact	Immediately flush eyes with water for at least 15 minutes while holding eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Skin Contact	Immediately brush off excess chemical and flush contaminate areas with plenty of water. Immediately remove all contaminated clothing, jewelry, and shoes. Rinse skin with large amounts of water/shower. Immediately contact a poison center, physician, or get medical attention. Wash clothing and shoes before reuse.
Inhalation	Move exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Ingestion	If swallowed: Rinse mouth, then give large quantities of water. DO NOT INDUCE VOMITTING. Never give anything by mouth to an unconscious person or convulsive person. Get medical attention immediately.

Most important symptoms and effects

Harmful if ingested in large quantities. Large doses may be fatal.

5. FIRE-FIGHTING MEASURES**Extinguishing Media**

Suitable Extinguishing Media: Use media suitable for extinguishing fire

Unsuitable Extinguishing Media: Not available

Specific Hazards Arising from the Chemical

Corrosive to metals

Protective equipment and precautions for firefighters

Keep upwind of fire. Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with a full face piece operated in the pressure demand or other positive pressure mode. Move containers out of fire area if you can do so without danger. Apply water to cool containers that are exposed to fire.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures****Personal precautions**

Do not get in eyes, on skin, or on clothing. Wear appropriate personal protective equipment (PPE). Ventilate closed spaces before entering. Do not eat, drink, or smoke when using this product. Wash thoroughly after handling.

Environmental precautions

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. This material is alkaline and may raise the pH of surface waters with low buffering capacity See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

Methods and material for containment and clean up**Methods for Containment**

Prevent further leakage or spillage if safe to do so.

Methods for Clean up

Shovel dry material into suitable container. Vacuum any remaining material into a suitable container. Flush spill area with water, if appropriate.

7. HANDLING AND STORAGE**Precautions for safe handling**

Do not get in eyes, on skin, or on clothing. Avoid creation and breathing of dusts. Do not eat, drink, or smoke in areas where this material is used. Wash thoroughly after handling. Wet material may pose a slipping hazard. Wear PPE as described in Section 8 of this SDS.

Conditions for safe storage, including any incompatibilities

Keep in a tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture, and incompatibilities. This material may react with acids and is corrosive towards metals. Do not store with aluminum or magnesium. Do not mix with acids or organic material.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH, TLV	OSHA, PEL	Carcinogen
Sodium Metasilicate	N/A	N/A	N/A
Sodium Hydroxide	2 mg/m ³	-2 mg/m ³	N/A

Appropriate engineering controls

Engineering Controls Provide local exhaust ventilation where dust or mist may be generated. Ensure compliance with applicable exposure limits.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Use safety glasses with side shields. If eye contact is likely wear chemical safety goggles, or a full face safety shield. Provide an emergency eye wash fountain and quick drench chemical shower in the immediate work area.

Skin and Body Protection Use chemical impervious gloves, clothing, boots, and equipment to prevent contact with this material.

Respiratory Protection A NIOSH approved respirator with N95 cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed the exposure limits, or when symptoms have been observed that indicate over exposure.

General Hygiene Considerations Wear protective clothing to guard against dust exposure. Maintain eye wash fountain and quick drench safety shower in work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical State	Solid	Odor	Odorless
Color	White	Odor Threshold	Not Determined
<u>Property</u>	<u>Values</u>	<u>Remarks - Method</u>	
pH	Approx. 14	1% solution	
Melting Point/Freezing Point	Not Available		
Boiling Point/Boiling Range	Not Available		
Flash Point	Not Available		
Evaporation Rate	Not Available		
Flammability (Solid, Gas)	Non-Flammable		
Upper Flammability Limits	Not Available		
Lower Flammability Limits	Not Available		
Vapor Pressure	Not Available		
Vapor Density	Not Available		
Specific Gravity	2.0	Water= 10	
Water Solubility	12.0 @ 70° F		
Solubility in other solvents	Not Available		
Partition Coefficient	Not Available		
Auto-ignition Temperature	Not Available		
Decomposition Temperature	Not Available		
Kinematic Viscosity	Not Available		
Dynamic Viscosity	Not Available		
Explosive Properties	Not Available		
Oxidizing Properties	Not Available		

10. STABILITY AND REACTIVITY

Reactivity	May react with incompatible materials mentioned below.
Chemical Stability	Stable under normal conditions and storage.
Conditions to Avoid	Moisture, dusting, and incompatibilities.
Incompatible materials	Acid, organic halogen compounds, nitro compounds, aluminum, magnesium, tin, zinc, brass, bronze, copper, lead, and sugars.
Hazardous Decomposition Products	Sodium dioxide. Decomposition with certain metals releases flammable and explosive hydrogen gas.
Hazardous Polymerization	Will not occur.

11. TOXICOLOGICAL INFORMATION

Irritation Data

Component	Results
Sodium Metasilicate 6834-92-0	Human: 250 mg/24 hours: Skin: Severe, Rabbit: 250 mg/24 hours: Skin: Severe, Guinea pig: 250 mg/24 hours: Skin: Moderate
Sodium Hydroxide	Rabbit: 500 mg/24 hours: Skin: Severe, Rabbit: 50ug/24 hours: Eye: Severe

Component Toxicity Data

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium Metasilicate 6834-92-0	600 mg/kg (Rat)	-	-
Sodium Carbonate 497-19-8	4090 mg/kg (Rat)	2210 mg/kg (Mouse)	2300 mg/m ³ (2 hr-Rat)

12. ECOLOGICAL INFORMATION

Ectotoxicity (Aquatic)

This material has exhibited moderate toxicity to aquatic organisms.

Biodegradation	Not subject to biodegradation
Persistence	Believed to persist in the environment
Bioconcentration	Not expected to bioconcentrate in organisms
Additional Information	This material has exhibited slight toxicity to terrestrial organisms

13. DISPOSAL CONSIDERATIONS

Container Disposal

Dispose of container in accordance with applicable federal, state, local, and international regulations. Container rinsate must be disposed of in compliance with applicable regulations.

Waste Disposal

Reuse or recycle if possible. May be subject to disposal regulations. Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

Note

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT I.D. Number	Not Available
DOT Proper Shipping Name	Not Available
DOT Hazard Classes:	
US DOT	Not Available

Road (ADR)	Not Available
Air (ICAO/IMDG)	Not Available
Sea (IMO/IMDG)	Not Available
Packing Group	Not Available
DOT Label	Not Available

15. REGULATORY INFORMATION

U.S. Federal Regulations

Contents of this SDS comply with OSHA Hazard Communication Standard CFR 1910.1200.

OSHA Hazard Communication Standard (26 CFR 1910.1200)

(X) Hazardous () Non- Hazardous

CERCLA Sections 102a/103 Hazardous Substances

Not regulated

SARA EHS Chemical

Not regulated

EPCRA Sections 311/312 Hazard Categories

Acute Health Hazard

EPCRA Section 313

Not regulated

OSHA Process Safety

Not regulated

FDA

Sodium Silicates have generally recognized as Safe (GRAS) status under specific FDA regulations. Refer to 21 Code of Federal Regulations (CFR) 173, 175, 176, 177, 182, and 184, which is accessible on the FDA's website.

State Regulations

California Prop 65

This product may contain the following ingredient(s) known to the state of California to cause cancer, birth defects or other reproductive harm: Sodium Hydroxide (CAS1310-73-2).

Inventories

TSCA

Components are listed or exempt.

TSCA 12(b)

This product is not subject to export notification.

Canadian Chemical

Components of this product are listed on either the DSL or the NDSL.

WHMIS- Classification of Substances

E- Corrosive material

16. OTHER INFORMATION**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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Prepared By: Ryan AuBuchon, Chemist I