

**SECTION 1: CHEMICAL PRODUCT - COMPANY IDENTIFICATION****ViChem**

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**PRODUCT NAME:** LCF-Sodium Silicate Liquid (All Siliceous Grades)  
**CHEMICAL NAME:** Sodium Silicate liquid, siliceous  
**MSDS CREATION DATE:** 05/14/2008  
**MSDS REVISION DATE:** 9/28/2009

In case of emergency call: (936) 441-1770

For Transportation emergency, Call CHEMTREC: (800) 424-9300

**SECTION 2: COMPOSITION, INFORMATION ON INGREDIENTS**

<u>Components</u>	<u>CAS Number</u>	<u>% By Weight</u>
Sodium Silicate	1344-09-8	36-40

**SECTION 3: HAZARDS IDENTIFICATION****EMERGENCY OVERVIEW:**

Brown viscous liquid. Causes eye, skin, and digestive tract irritation. Spray mist causes irritation to the respiratory tract. High pH is harmful to aquatic life. Noncombustible. Spills are slippery. Reacts with acids, ammonium salts, reactive metals and some organics.

**ROUTES OF ENTRY:** Inhalation, ingestion, eye and skin contact.**POTENTIAL HEALTH EFFECTS****EYES:** Causes irritation.**SKIN:** Causes irritation**INGESTION:** May cause irritation to mouth, esophagus and stomach.**INHALATION:** May cause irritation of respiratory tract**PHYSICAL HAZARDS:** Dries to form a glass film, which can cut skin. Spilled material is slippery.**CHRONIC HEALTH HAZARDS:** No known chronic hazards**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:** None documented.**CARCINOGENICITY**

OSHA: Not Listed

NTP: Not Listed

IARC: Not Listed

**SECTION 4: FIRST AID MEASURES****EYES:** Promptly flush eyes with copious amounts of water for at least 15 minutes. Washing eyes within several minutes is essential to achieve maximum effectiveness. Get medical attention immediately.**SKIN:** Wash affected area with soap and water. Remove contaminated clothing and footwear. Wash clothing before reuse and discard footwear. Get medical attention

**INGESTION:** If swallowed, do not induce vomiting. Never give anything by mouth to an unconscious person. If person is fully conscious, give a cupful of water. If vomiting occurs spontaneously, keep airway clear and give more water. Get medical attention immediately.

**INHALATION:** Remove to fresh air. Get medical attention immediately. If breathing is difficult, give oxygen. If respiration or pulse has stopped, administer artificial respiration and call for emergency services immediately.

## **SECTION 5: FIRE FIGHTING MEASURES**

**FLAMMABLE LIMITS IN AIR:** This material is a noncombustible liquid

**FLASH POINT:** Not applicable

**AUTO IGNITION TEMPERATURE:** Not Applicable

**EXTINGUISHING MEDIA:** Water fog, water spray, dry chemical, foam or carbon dioxide may be used to extinguish a fire in areas where this material is stored. Use agents appropriate for the surrounding fire.

**SPECIAL FIRE FIGHTING PROCEDURES:** When this material is present in the area of a fire, fire fighters should wear full protective gear and use self-contained breathing apparatus with a full face piece (MSHA/NIOSH approved or equivalent) for skin, eyes and respiratory protection.

**HAZARDOUS COMBUSTION PRODUCTS:** None, since this material is a noncombustible liquid.

**Sensitivity to Mechanical Impact:** Not Sensitive

**Sensitivity to Static Discharge:** Not Sensitive

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### **ENVIRONMENTAL PRECAUTIONS:**

Contain spill with dike to prevent entry into sewers or waterways, since this material sinks and mixes with water and the high pH of undiluted material is harmful to aquatic life. Only water will evaporate from the spill. Report spills, if required to the appropriate local, state and federal agencies.

### **CLEANUP METHODS:**

Isolate, dike and store spilled material using sand or earth for containment. Liquid material from spills can be mopped up or removed with a vacuum truck. Neutralize remaining traces with a dilute inorganic acid (phosphoric, sulfuric or hydrochloric acid) then discharge to sewer in accordance with appropriate regulations or permits. Flush spill area with water followed by application of sodium carbonate. All cleanup material should be removed for proper treatment or disposal. Spills on soil or dirt may be handled by removing the affected soil and placing in approved containers.

## **SECTION 7: HANDLING AND STORAGE**

### **HANDLING:**

Follow good handling and housekeeping practices to avoid spills and generation of airborne mists. Wear appropriate protective equipment, such as rubber gloves, safety glasses or goggles and body covering protective clothing. Wash exposed skin areas thoroughly with soap and water after handling.

**STORAGE:**

Store in clean steel or plastic containers in a cool, well ventilated area. Maintain good housekeeping procedures. Keep containers closed, protect against physical damage and separate from acids, reactive metals and ammonium salts. Contact with acids will cause gelling and the evolution of heat. Do not store in aluminum, fiberglass, copper, brass, zinc or galvanized containers.

**SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION****ENGINEERING CONTROLS:**

Use adequate general and local exhaust ventilation where mist or spray may be generated. Safety shower and eyewash bath should be in close proximity.

**RESPIRATORY PROTECTION:**

Use NIOSH/MSHA approved respiratory protection equipment to limit exposure where airborne exposure is likely. Observe respirator use limitations specified by NIOSH/MSHA or the manufacturer. An approved self-contained breathing apparatus with full-face piece is recommended for nonroutine or emergency conditions for inhalation protection.

**EYE PROTECTION:**

Wear safety glasses with side shields, safety goggles or a face shield for protection where eye contact may be likely. Eyewash station should be near handling areas.

**SKIN PROTECTION:**

Wear appropriate clothing, such as aprons, coveralls, long sleeve shirts and rubber gloves to limit contact with the skin and prevent long-term exposure. Wash skin thoroughly after handling. Wash contaminated clothing and clean protective equipment before reuse.

**SECTION 9: CHEMICAL PROPERTIES**

APPEARANCE: Light brown Viscous liquid.

ODOR: None to slightly soapy

PHYSICAL STATE: Liquid

pH AS SUPPLIED: <13

BOILING POINT: F: 214-216°

C: 101-102°

FREEZING POINT: F: 30°

C: -1°

VAPOR PRESSURE (mmHg): Not Applicable

VAPOR DENSITY (AIR = 1): Not Applicable

SPECIFIC GRAVITY (H<sub>2</sub>O = 1): 1.37-1.41

@ C: 20°

EVAPORATION RATE: Not Applicable

SOLUBILITY IN WATER, % BY WEIGHT: 100%

PERCENT SOLIDS BY WEIGHT: 36-40%

SiO<sub>2</sub>:Na<sub>2</sub>O, WT RATIO: 2.30-3.50:1.00

SECTION 9 NOTES: Includes typical data for principal siliceous grades.

**SECTION 10: STABILITY AND REACTIVITY**

CHEMICAL STABILITY: This product is stable under all conditions of storage, shipment and use.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Contact with acids will cause gelling and the evolution of heat. May react with ammonium salts resulting in evolution of ammonia gas. Flammable hydrogen gas may be produced on prolonged contact with aluminum, copper, brass and zinc.

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** None

**HAZARDOUS POLYMERIZATION:** Does not occur

### **SECTION 11: TOXICOLOGICAL INFORMATION**

**EYES:** This material is irritating but not corrosive to the eyes

**SKIN:** Sodium silicate solutions produce skin irritations and are more irritating to abraded skin than intact skin. Experience confirms that irritation occurs when sodium silicate gets on clothes at the collar, cuffs or other areas where abrasion may occur. Median lethal dose (LD50) is 4640 mg/Kg (Rabbit).

**INGESTION:** Median lethal dose (LD50) is 1153 mg/Kg (Rat)

**INHALATION:** Not established

**SUB CHRONIC EFFECTS:** Not Established

**TERATOLOGY (BIRTH DEFECTS):** Not established

**MUTAGENICITY (GENETIC EFFECTS):** Not Established

### **SECTION 12: ECOLOGICAL INFORMATION**

**ECO TOXICITY:** No data has been reported for sodium silicate solutions; however, data for 100% solids basis indicate the 96-hour median tolerances for aquatic life including mosquito fish, water fleas, snail eggs and lawn shrimp range from 160 ppm to 2320 ppm. This product contains approximately 36% to 40% sodium silicate.

**ENVIRONMENTAL FATE:** This material is not persistent in aquatic systems, but its high pH when undiluted is acutely harmful to aquatic life. Diluted material rapidly depolymerizes to yield dissolved silica in a form that is indistinguishable from natural dissolved silica. It does not contribute to BOD or COD. This material does not bioaccumulate except in species that use silica as a structural material such as diatoms and siliceous sponges. Where abnormally low natural silica concentrations exist, dissolved silica may be a limiting nutrient for diatoms and a few other aquatic algal species. However, the addition of excess dissolved silica over the limiting concentration will not stimulate the growth of diatom populations, since their growth rate is independent of silica concentrations once the limiting concentration is exceeded. Neither silica nor sodium will appreciably bioconcentrate up the food chain.

**PHYSICAL/CHEMICAL EFFECTS:** This material sinks and mixes with water. Only water will evaporate from this material.

### **SECTION 13: DISPOSAL INFORMATION**

Sodium silicate liquid is not a hazardous waste. Neutralize and landfill solids in accordance with federal, state and local regulations for industrial waste disposal. Flush neutral liquid to sewer in accordance with federal, state and local regulations and permits

### **SECTION 14: TRANSPORT INFORMATION**

U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION:

PROPER SHIPPING NAME:	Not DOT Regulated
HAZARD CLASS:	Not applicable
UN/NA NUMBER:	Not applicable
PACKING GROUP:	Not applicable
FREIGHT CLASSIFICATION:	Not applicable

**SECTION 15: REGULATORY INFORMATION**

## U.S. FEDERAL REGULATIONS

OSHA (29 CFR 1910.1200): Not regulated

OSHA (29CFR 1910.119): Not regulated

TSCA (TOXIC SUBSTANCE CONTROL ACT): Listed in the TSCA inventory of chemicals, 1344-09-8

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT):

Contains no CERCLA hazardous substance.

Notification of spills of this material is not required.

RCRA (40 CFR 261.33, 261.20-24): Listed Hazardous Waste: No

Exhibits characteristics of hazardous waste: No

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):

311/312 HAZARD CATEGORIES: Physical Hazards: None

Health Hazards: Immediate

313 REPORTABLE INGREDIENTS: This product contains no toxic chemicals subject to the reporting requirements of SARA Title III, Section 313.

## STATE REGULATIONS:

California Occupational Safety and Health: Not listed

Massachusetts Substance List: Not Listed

New Jersey Right -To-Know: Listed at 1% or greater

Pennsylvania Right-To-Know: Listed at 3% or greater

## INTERNATIONAL REGULATIONS:

## CANADIAN REGULATIONS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations

WHMIS Classification: D2B

**SECTION 16: OTHER INFORMATION**

Individuals handling this product should be informed of the recommended safety precautions and should have access to this information.

This information relates to the specific product designated and may not be valid for such product used in combination with any other materials or in any other processes. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty, or guarantee is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy themselves as to the suitability and completeness of such information for their own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.

ViChem reserves the right to refuse shipment of this product to any consumer who fails to demonstrate the ability to consistently handle and use it safely and in compliance with all applicable laws, rules and regulations. Such demonstration may require on-site inspection of any or all storage, processing, packaging, and other handling systems that come in contact with it.

Customers are responsible for compliance with local, state, and federal regulations that may be pertinent in the storage, application, and disposal of this product.