



## MATERIAL SAFETY DATA SHEET

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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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**Occidental Chemical Corporation****5005 LBJ Freeway****P.O. Box 809050****Dallas, Texas 75380-9050****24 HOUR EMERGENCY TELEPHONE:****1-800-733-3665 or 1-972-404-3228 (U.S.);****32.3.575.55.55 (Europe);****1800-033-111 (Australia)****TO REQUEST AN MSDS:****MSDS@oxy.com or 1-972-404-3245****CUSTOMER SERVICE:****1-800-752-5151 or 1-972-404-3700****MSDS NUMBER:** M35886**SUBSTANCE: SODIUM SILICATE LIQUID ALKALINE (ALL GRADES)****TRADE NAMES:**

Sodium Silicate Liquid Alkaline, Grades 2.2, 50, 50 CLEAR, 50 LIGHT, 50 SPECIAL, 50 SPECIAL CLEAR, F195, WD-43, WD-43 HEAVY, WD-43 SPECIAL

**SYNONYMS:**

Liquid sodium silicate; Water glass; Sodium silicate liquid, alkaline

**PRODUCT USE:** adhesives and binders, pulp and paper, deinking, detergents/soaps, catalysts, textiles, drilling fluids, mineral processing, refractory cements, zeolites**REVISION DATE:** Dec 01 2005

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### 2. HAZARDS IDENTIFICATION

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**NFPA RATINGS (SCALE 0-4):** HEALTH=3 FIRE=0 REACTIVITY=0**HMS RATINGS (SCALE 0-4):** HEALTH=3 FLAMMABILITY=0 REACTIVITY=0

**EMERGENCY OVERVIEW:****COLOR:** colorless**PHYSICAL FORM:** liquid**ODOR:** odorless to faint odor**SIGNAL WORD:** WARNING**MAJOR HEALTH HAZARDS:** IRRITATING TO RESPIRATORY TRACT, SKIN, EYES, AND GASTROINTESTINAL TRACT. MAY CAUSE PERMANENT EYE DAMAGE.**PRECAUTIONARY STATEMENTS:** Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Do not taste or swallow. Keep container tightly closed. Use only with adequate ventilation. Wash thoroughly after handling.**POTENTIAL HEALTH EFFECTS:****INHALATION:****SHORT TERM EXPOSURE:** irritation**LONG TERM EXPOSURE:** irritation**SKIN CONTACT:****SHORT TERM EXPOSURE:** irritation**LONG TERM EXPOSURE:** dermatitis**EYE CONTACT:****SHORT TERM EXPOSURE:** irritation (possibly severe), burns, eye damage, blindness**LONG TERM EXPOSURE:** eye damage, blindness**INGESTION:****SHORT TERM EXPOSURE:** irritation**LONG TERM EXPOSURE:** irritation, possible ulcers**CARCINOGEN STATUS:****OSHA:** No**NTP:** No**IARC:** No

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**3. COMPOSITION, INFORMATION ON INGREDIENTS**

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**COMPONENT:** SODIUM SILICATE**CAS NUMBER:** 1344-09-8**PERCENTAGE:** 35-53**COMPONENT:** WATER**CAS NUMBER:** 7732-18-5**PERCENTAGE:** 47-65

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**4. FIRST AID MEASURES**

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**INHALATION:** If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. If respiration or pulse has stopped, have a trained person administer Basic Life Support (Cardio-Pulmonary Resuscitation/Automatic External Defibrillator) and CALL FOR EMERGENCY SERVICES IMMEDIATELY.**SKIN CONTACT:** Immediately flush contaminated areas with water. Remove contaminated clothing, jewelry, and shoes immediately. Wash contaminated areas with soap and water. Thoroughly clean and dry contaminated

clothing before reuse. GET MEDICAL ATTENTION IMMEDIATELY.

**EYE CONTACT:** Immediately flush eyes with a directed stream of water for at least 15 minutes, forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissues. Washing eyes within several seconds is essential to achieve maximum effectiveness. GET MEDICAL ATTENTION IMMEDIATELY.

**INGESTION:** Never give anything by mouth to an unconscious or convulsive person. If swallowed, do not induce vomiting. Give large amounts of water. If vomiting occurs spontaneously, keep airway clear. Give more water when vomiting stops. GET MEDICAL ATTENTION IMMEDIATELY.

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## 5. FIRE FIGHTING MEASURES

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**FIRE AND EXPLOSION HAZARDS:** Negligible fire hazard.

**EXTINGUISHING MEDIA:** Use extinguishing agents appropriate for surrounding fire.

**FIRE FIGHTING:** Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Wear appropriate personal protective equipment recommended in Section 8 of the MSDS.

**SENSITIVITY TO MECHANICAL IMPACT:** Not sensitive

**SENSITIVITY TO STATIC DISCHARGE:** Not sensitive

**FLASH POINT:** not flammable

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## 6. ACCIDENTAL RELEASE MEASURES

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### **OCCUPATIONAL RELEASE:**

Flush spill area with water, if appropriate. Wear appropriate personal protective equipment recommended in Section 8 of the MSDS. Liquid material may be removed with a vacuum truck. Wet material is slippery under foot. Shovel dried residue into suitable container. Keep out of water supplies and sewers. This material is alkaline and may raise the pH of surface waters with low buffering capacity. Releases should be reported, if required, to appropriate agencies.

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## 7. HANDLING AND STORAGE

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**STORAGE:** Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Do not store in aluminum container or use aluminum fittings or transfer lines, as flammable hydrogen gas may be generated. Keep separated from incompatible substances (see Section 10 of the MSDS).

**HANDLING:** Do not get in eyes, on skin, or on clothing. Avoid breathing aerosol mist. Wash thoroughly after handling. Use care when handling hot material.

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## 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

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**EXPOSURE LIMITS:****SODIUM SILICATE LIQUID ALKALINE (ALL GRADES):**

No occupational exposure limits established.

**VENTILATION:** Provide local exhaust ventilation where dust or mist may be generated.

**EYE PROTECTION:** Wear safety glasses with side shields. If eye contact is likely, wear chemical resistant safety goggles. Wear chemical safety goggles with a faceshield to protect against skin contact when appropriate. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

**CLOTHING:** Wear protective clothing to minimize skin contact. When skin contact is likely, wear Tychem(R) SL or a similar protective suit. Wear appropriate heat resistant clothing when potential exists for contact with liquids above 120 F (49 C).

**GLOVES:** Wear appropriate chemical resistant gloves.

**PROTECTIVE MATERIAL TYPES:** butyl rubber, natural rubber, neoprene, nitrile, Tychem(R) SL, Tyvek (R)

**RESPIRATOR:** A NIOSH approved respirator with N95 (dust, fume, mist) filters may be permissible under certain circumstances where dust or mist is present or symptoms have been observed that are indicative of overexposure. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**PHYSICAL STATE:** liquid

**APPEARANCE:** clear to opaque

**COLOR:** colorless

**TEXTURE:** slippery to touch

**ODOR:** odorless to faint odor

**MOLECULAR FORMULA:**  $x\text{SiO}_2/\text{Na}_2\text{O}$  ( $x = 1.63\text{-}2.30$  by weight)

**BOILING POINT:** 214-216 F (101-102 C)

**FREEZING POINT:** 30 F (-1 C)

**VAPOR PRESSURE:** Not available

**VAPOR DENSITY:** Not available

**SPECIFIC GRAVITY (water=1):** 1.42-1.70

**BULK DENSITY:** 11.8-14.2 lbs/gal

**WATER SOLUBILITY:** 100%

**PH:** 12.2-12.5

**VOLATILITY:** >46%

**ODOR THRESHOLD:** Not available

**EVAPORATION RATE:** Not available

**COEFFICIENT OF WATER/OIL DISTRIBUTION:** Not available

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## 10. STABILITY AND REACTIVITY

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**REACTIVITY:** Stable at normal temperatures and pressure. Prolonged contact with incompatible metals may produce flammable hydrogen gas.

**CONDITIONS TO AVOID:** Prolonged storage above 140 F (60C). Contact with acids will cause gelling and evolution of heat.

**INCOMPATIBILITIES:** acids, prolonged contact with aluminum, brass, bronze, copper, lead, tin, zinc or other alkali sensitive metals or alloys

**HAZARDOUS DECOMPOSITION:**

Thermal decomposition products: None known.

**POLYMERIZATION:** Will not polymerize.

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## 11. TOXICOLOGICAL INFORMATION

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**SODIUM SILICATE:**

**TOXICITY DATA:**

1.0-2.2 gm/kg oral-rat LD50

**IRRITATION DATA:** Draize Eye (pH/Weight Ratio of SiO<sub>2</sub>/Na<sub>2</sub>O): 11.6/2.54 Irritant; 11.6/2.4 Irritant; 12.2/2.0 Corrosive; 12.4/1.8 Corrosive

**LOCAL EFFECTS:**

Irritant: inhalation, skin, eye

**ACUTE TOXICITY LEVEL:**

Moderately Toxic: ingestion

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** respiratory disorders, skin disorders and allergies

**HEALTH EFFECTS:**

**INHALATION:**

**ACUTE EXPOSURE:**

May cause irritation of the respiratory tract, possibly with coughing, choking, and pain either immediately or more often within 72 hours.

**CHRONIC EXPOSURE:**

Depending on the concentration and duration of exposure, repeated or prolonged exposure may cause inflammatory changes in the nose, sinuses and bronchial regions.

**SKIN CONTACT:**

**ACUTE EXPOSURE:**

Direct skin contact may cause irritation.

**CHRONIC EXPOSURE:**

Repeated or prolonged contact may result in dermatitis.

**EYE CONTACT:**

**ACUTE EXPOSURE:**

Direct contact may cause severe irritation, pain, and corneal burns (possibly leading to blindness). The full extent of the injury may not be immediately apparent.

**CHRONIC EXPOSURE:**

Effects depend on concentration and duration of exposure. Repeated or prolonged contact may result in

conjunctivitis, lens damage or other effects including blindness.

**INGESTION:****ACUTE EXPOSURE:**

May cause immediate pain and severe burns of the esophagus and gastrointestinal tract with vomiting, nausea and diarrhea. Edema of the epiglottis and shock may occur.

**CHRONIC EXPOSURE:**

Repeated or prolonged ingestion may result in chronic irritation and possible ulcers.

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**12. ECOLOGICAL INFORMATION**

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**ECOTOXICITY DATA:**

**FISH TOXICITY:** This material has exhibited moderate toxicity to aquatic organisms.

**FATE AND TRANSPORT:**

**BIODEGRADATION:** This material is inorganic and not subject to biodegradation.

**PERSISTENCE:** This material is believed to persist in the environment.

**BIOCONCENTRATION:** This material is believed not to bioaccumulate.

**OTHER ECOLOGICAL INFORMATION:** This material has exhibited slight toxicity to terrestrial organisms.

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**13. DISPOSAL CONSIDERATIONS**

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Reuse or reprocess if possible. Dispose in accordance with all applicable regulations. May be subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D002 (Corrosive).

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**14. TRANSPORT INFORMATION**

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**U.S. DEPARTMENT OF TRANSPORTATION:** Not regulated.

**CANADIAN TRANSPORTATION OF DANGEROUS GOODS:** Not regulated.

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**15. REGULATORY INFORMATION**

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**U.S. REGULATIONS:**

**CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):** Not regulated.

**SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):** Not regulated.

**SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):**

ACUTE: Yes

CHRONIC: No

FIRE: No  
REACTIVE: No  
SUDDEN RELEASE: No

**SARA TITLE III SECTION 313 (40 CFR 372.65):** Not regulated.

**OSHA PROCESS SAFETY (29CFR1910.119):** Not regulated.

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

**STATE REGULATIONS:**

**California Proposition 65:** This product is not listed, but it may contain contaminants known to the State of California to cause cancer or reproductive toxicity as listed under Proposition 65 State Drinking Water and Toxic Enforcement Act. For additional information, contact OxyChem Customer Service.

**NEW JERSEY WORKER AND COMMUNITY RIGHT TO KNOW:  
REPORTING REQUIREMENT:**

SODIUM SILICATE 1344-09-8 35-53%  
WATER 7732-18-5 47-65%

**RIGHT TO KNOW HAZARDOUS SUBSTANCE LIST:**

Not regulated.

**SPECIAL HEALTH HAZARD SUBSTANCE LIST:**

Not regulated.

**PENNSYLVANIA RIGHT TO KNOW:**

**REPORTING REQUIREMENT:**

SODIUM SILICATE 1344-09-8 35-53%  
WATER 7732-18-5 47-65%

**HAZARDOUS SUBSTANCE LIST:**

Not regulated.

**ENVIRONMENTAL HAZARDOUS SUBSTANCE LIST:**

Not regulated.

**SPECIAL HAZARDOUS SUBSTANCE LIST:**

Not regulated.

**CANADIAN REGULATIONS:**

**CONTROLLED PRODUCTS REGULATIONS (CPR):** This product has been classified in accordance with the criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**WHMIS CLASSIFICATION:** D2B.

**NATIONAL INVENTORY STATUS:**

**U.S. INVENTORY (TSCA):** All the components of this substance are listed on or are exempt from the

inventory.

**TSCA 12(b) EXPORT NOTIFICATION:** Not listed.

**CANADA INVENTORY (DSL/NDSL):** All components of this product are listed on the DSL.

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## 16. OTHER INFORMATION

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### **MSDS SUMMARY OF CHANGES**

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION
2. HAZARDS IDENTIFICATION
3. COMPOSITION, INFORMATION ON INGREDIENTS
5. FIRE FIGHTING MEASURES
6. ACCIDENTAL RELEASE MEASURES
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