SAFETY DATA SHEET

M47026 NA_EN

OxyChem®

Responsible Care®
Good Chemistry at Work

TECHNICAL SODIUM CHLORITE SOLUTION 18.75, 31.25, and 31% ACTIVE SODIUM CHLORITE (EPA)

MSDS No.: M47026 **Rev. Date:** 07-Jun-2013 **Rev. Num.** 07

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Identification:	Occidental Chemical Corporation 5005 LBJ Freeway P.O. Box 809050 Dallas, TX 75380-9050
24 Hour Emergency Telephone Number:	1-800-733-3665 or 1-972-404-3228 (USA); CHEMTREC (within USA and Canada): 1-800-424-9300; CHEMTREC (outside USA and Canada): +1 703-527-3887; CHEMTREC Contract No: CCN16186
To Request an MSDS:	MSDS@oxy.com or 1-972-404-3245
Customer Service:	1-800-752-5151 or 1-972-404-3700
Trade Name:	Technical Sodium Chlorite Solution 18.75, 31.25, 31% Active Sodium Chlorite Solution
Synonyms:	Sodium Chlorite Solution; Chlorous Acid, Sodium Salt; 25% Active Sodium Chlorite; 31% Active Sodium Chlorite Solution
Product Use:	Technical Sodium Chlorite Solution 18.75, 31.25 and 31% Active Sodium Chlorite Solution are registered antimicrobial pesticides. See Section 15 for the EPA Registration Numbers. Their uses are potable water, industrial cooling water, food plant process water, wastewater, slime control in paper mills, and oilfield water. Technical Sodium Chlorite Solution 18.75 and 31.25 can also be used for poultry processing water. Sodium Chlorite Solution 31.25 is a Registered Pesticide (Reg. No. 26203) in Canada, for use in Closed System Mechanical Generation of Chlorine Dioxide only for Microbial Control in Recirculating Cooling Systems and Pulp and Paper Mills.

2. HAZARDS IDENTIFICATION

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EMERGENCY OVERVIEW:

Color: Pale, yellow

Physical State: Liquid
Appearance: Slightly cloudy
Odor: Slight chlorine odor

Signal Word: **DANGER**

MAJOR HEALTH HAZARDS: CORROSIVE. HARMFUL OR FATAL IF SWALLOWED. TOXIC IF INHALED. CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. MAY CAUSE DAMAGE TO RESPIRATORY SYSTEM AND BLOOD.
PHYSICAL HAZARDS: Dried material can ignite upon contact with combustibles.
AQUATIC TOXICITY: Harmful to aquatic life.
PRECAUTIONARY STATEMENTS: Wash thoroughly after handling. Wear protective gloves, protective clothing, eye, and face protection. Do not eat, drink or smoke when using this product. Do not breathe mist, vapours, or spray. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Keep container tightly closed. Store in a secure manner. Always package, store, transport and dispose of all waste and contaminated equipment in accordance with all applicable federal, state, and local health and environmental regulations. Do not contaminate with acids, reducing agents, combustible materials, oxidizing materials, hypochlorite, organic solvents and compounds, garbage, dirt, organic matter, household products, chemicals, soap products, paint products, vinegar, beverages, oils, pine oil, dirty rags, sulfur-containing rubber, or any other foreign matter.
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POTENTIAL HEALTH EFFECTS:

Inhalation: May cause irritation (possibly severe), burns, difficulty breathing, headache, dizziness, pulmonary edema.

Skin contact: May cause irritation (possibly severe) and chemical burns.

Eye contact: May cause irritation (possibly severe), chemical burns, swelling of the eye and blurred vision, and blindness.

Ingestion: Harmful or fatal if swallowed. May cause irritation (possibly severe) and chemical burns.

See Section 11: TOXICOLOGICAL INFORMATION

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Percentage	CAS Number
Sodium chlorite	15 - 35	7758-19-2
Sodium chloride	1 - 5	7647-14-5
Water	60 - 85	7732-18-5

4. FIRST AID MEASURES

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 and/or Automatic External Defibrillator) and CALL FOR EMERGENCY SERVICES IMMEDIATELY.

SKIN CONTACT: Remove contaminated clothing, jewelry, and shoes immediately. Immediately flush contaminated areas with water. Wash contaminated areas with soap and water. Thoroughly clean and dry contaminated clothing before reuse. Discard contaminated leather goods. IF IRRITATION OCCURS, GET MEDICAL ATTENTION.

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. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. 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 water. If vomiting occurs spontaneously, keep airway clear. Give more water when vomiting stops. GET MEDICAL ATTENTION IMMEDIATELY.

Notes to Physician: Chlorine dioxide vapors are emitted when this product contacts acids or chlorine. If these vapors are inhaled, monitor patient closely for delayed development of pulmonary edema which may occur up to 48-72 hours post-inhalation. Following ingestion, neutralization and use of activated charcoal is not indicated. Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE-FIGHTING MEASURES

Fire Hazard: Negligible fire hazard. Avoid evaporation to dryness. Dried material can ignite upon contact with combustibles. This product may represent an explosion hazard if it contacts acids, chlorine, or organic materials (Refer to Section 10).

Extinguishing Media: Use extinguishing agents appropriate for surrounding fire.

Fire Fighting: Wear NIOSH approved positive-pressure self-contained breathing apparatus. Consider evacuation of personnel located downwind. Keep unnecessary people away, isolate hazard area and deny entry. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Flood with fine water spray. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Not sensitive.

Flash point: Not applicable

Hazardous Combustion Products: Chlorine, Oxides of sodium

6. ACCIDENTAL RELEASE MEASURES

Occupational Release: Keep unnecessary people away, isolate hazard area and deny entry. Contain spill. Spill materials may be absorbed using nonflammable commercial absorbents. Dampen and scoop spilled material into clean, dedicated equipment. Every attempt should be made to avoid mixing spilled material with other chemicals or debris when cleaning up. Keep collected material damp and put into drums. Dispose promptly. Dried material can ignite upon contact with combustibles. Keep out of water supplies and sewers. Releases should be reported, if required, to appropriate agencies.

7. HANDLING AND STORAGE

Storage Conditions: Store and handle in accordance with all current regulations and standards. Keep container properly labeled and tightly closed. Store in a cool, dry area. Store in a well-ventilated area. Store below 212 F (100 C). Avoid exposure to sunlight or ultraviolet light. Keep separated from incompatible substances (see Section 10 of the Safety Data Sheet).

Handling Procedures: Do not taste or swallow. Do not get in eyes, on skin, or on clothing. Avoid breathing vapors or mist when opening container. Avoid creation of vapor or mist. Wash thoroughly after handling. Use clean utensils. Do not add the product to any dispensing device containing residuals of other products. Contamination may start a chemical reaction with generation of heat, liberation of hazardous gases (chlorine dioxide a poisonous, explosive gas), and possible fire and explosion. Do not contaminate with acids, reducing agents, combustible materials, oxidizing materials, hypochlorite, organic solvents and compounds, garbage, dirt, organic matter, household products, chemicals, soap products, paint products, vinegar, beverages, oils, pine oil, dirty rags, sulfur-containing rubber, or any other foreign matter. Dried material can ignite upon contact with combustibles.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Regulatory Exposure limit(s): No occupational exposure limits have been established at this time

Recommended Exposure Limit: 1 mg/m^3 recommended Time Weighted Average 8 hour (internal Occupational Exposure Limit). This value is based on potential systemic effects from inhalation of sodium chlorite dust.

ENGINEERING CONTROLS: Use only in well-ventilated areas. Provide local exhaust ventilation where vapors, mist or aerosols may be generated.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Wear chemical safety goggles. Where splashing or spraying is possible, use a faceshield in addition to chemical protective goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin and Body Protection: Wear protective clothing to minimize skin contact. Contaminated clothing should be removed and laundered before reuse. Discard contaminated leather goods.

Hand Protection: Wear appropriate chemical resistant gloves

Protective Material Types: Neoprene

Respiratory Protection: A NIOSH approved full-face respirator equipped with N95 (dust, fume, mist) cartridges may be permissible when symptoms have been observed that are indicative of overexposure. If chlorine or chlorine dioxide is present, an acid gas cartridge is also required. An approved self-contained breathing apparatus operated in the pressure demand mode or an airline respirator with escape pack is required when an air purifying respirator is not adequate or for spills / emergencies of unknown concentrations. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Appearance:	Slightly cloudy
Color:	Pale, yellow
Odor:	Slight chlorine odor
Odor Threshold:	No data available
Molecular Weight:	90.45
Specific Gravity (water=1):	1.1 to 1.3 @ 25 C
Density:	11.1 lbs/gal @ 35 C
pH:	>12 @ 25 C
Volatility:	59-85% by volume
Evaporation Rate (ether=1):	No data available
Flash point:	Not applicable

10. STABILITY AND REACTIVITY

Reactivity/ Stability: Stable at normal temperatures and pressures.

Conditions to Avoid: Avoid heat, flames, sparks and other sources of ignition. Avoid evaporation to dryness. Dried material can ignite upon contact with combustibles. Avoid contamination with foreign materials. Avoid exposure to sunlight or ultraviolet light.

Incompatibilities/ Materials to Avoid: Acids, Reducing agents, Combustible material, Oxidizing agents, Hypochlorite, Organic solvents and compounds, Garbage, Dirt, Organic materials, Household products, Chemicals, Soap products, Paint products, Vinegar, Beverages, Oils, Pine oil, Dirty rags, Sulfur-containing rubber, or any other foreign matter

Hazardous Decomposition Products: Chlorine dioxide is formed on contact with acids, Thermal decomposition products include chlorine and oxides of sodium

Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

LD50 Oral:	389 - 1800 mg/kg (Rat)
LC50 Inhalation:	0.29 mg/L (4 hr-Rat)
LD50 Dermal:	> 2 gm/kg skin-rabbit

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Mist or spray may cause severe irritation of the respiratory tract with coughing, choking, pain and possibly burns of the mucous membranes. In some cases, pulmonary edema may develop. Skin contact may cause severe irritation, pain, and possibly burns. Direct eye contact may cause severe irritation, pain and burns, possibly severe, and permanent damage including blindness. Ingesting the material may cause immediate pain and severe burns of the mucous membranes. There may be discoloration of the tissues. Swallowing and speech may be difficult at first and then almost impossible. The effects on the esophagus and gastrointestinal tract may range from irritation to severe corrosion to death. Edema of the epiglottis and shock may occur.

CHRONIC TOXICITY:
Sodium chlorite has produced hemolytic anemia in several animal species at concentrations of 100 mg/L or higher. In a subchronic study using rats, hematological alterations included decreased erythrocyte counts, hemoglobin levels, and hemacrit. Methemoglobin levels decreased in females, but increased in males. There is no evidence of kidney effects in humans; however, in animal studies with sodium chlorite, there is limited evidence of kidney effects.

CARCINOGENICITY: This product is not classified as a carcinogen by NTP, IARC or OSHA.

MUTAGENIC DATA: Sodium chlorite has tested positive in some studies. The significance of these test results for human health is unclear because the oxidizing effects of the chlorite or salting effects of sodium may significantly affect the ability of the tests to accurately detect mutagens.

REPRODUCTIVE TOXICITY: There is limited evidence of male reproductive effects in animal studies.

DEVELOPMENTAL TOXICITY: Observations in animal studies include decreased serum levels of thyroid hormones in offspring.

12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

- **Aquatic Toxicity:**
  LC50 rainbow trout = 290 mg/l as 80% $NaClO_2$ (96 hour);
  Bluegill = 265-310 mg/l as 80% $NaClO_2$ (96 hour);
  Sheepshead minnow = 62-90 ppm (96 hour)

- **Invertebrate Toxicity:**
  LC50 Daphnia Magna = 0.29 mg/L as 80% $NaClO_2$ (48 hour)

- **Other Toxicity:**
  LD50 Mallard duck = 0.49-1.00g/kg as 80% $NaClO_2$ (gavage);
  LD50 Bob White quail = 0.39 - 0.66 g/kg as 80% $NaClO_2$ (gavage);
  Sodium chlorite in the diet of birds was not acutely toxic. Eight-day dietary LC50's in the Mallard duck and Bob White quail were > 5,000 ppm

FATE AND TRANSPORT:

BIODEGRADATION: Chlorite ions are reduced by some bacteria under anaerobic conditions.

PERSISTENCE: This material will eventually degrade to sodium chloride.

BIOCONCENTRATION: This material will not bioaccumulate.

13. DISPOSAL CONSIDERATIONS

Waste from material:
Dispose in accordance with all applicable regulations. Do not put product, spilled product, or filled or partially filled containers into the trash or waste compactor. Contact with incompatible materials could cause a reaction and fire. Contact Customer Service to obtain neutralization instructions. Keep out of water supplies and sewers. May be subject to disposal regulations: U.S. EPA 40 CFR 261. Hazardous Waste Number(s): D001, D003.

Contaminated Packaging:
Container management: Containers are non-refillable. Do not reuse or refill containers. Offer for recycling if available. Offer for reconditioning if appropriate. Triple rinse or pressure rinse container promptly after emptying. Triple rinse containers 5-gallons or smaller as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Triple rinse containers larger than 5 gallons as follows: Empty remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse about 40 PSI for at least 30 seconds. Drain for 10 seconds, after the flow begins to drip.

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:

PROPER SHIPPING NAME:	Chlorite solution
UN NUMBER:	UN1908
HAZARD CLASS/ DIVISION:	8
PACKING GROUP:	II
LABELING REQUIREMENTS:	8

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

SHIPPING NAME:	Chlorite solution
UN NUMBER:	UN1908
CLASS OR DIVISION:	8
PACKING/RISK GROUP:	II

15. REGULATORY INFORMATION

U.S. REGULATIONS

- **OSHA REGULATORY STATUS:**
  This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200) (US)
- **CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):** Not regulated.
- **EPCRA EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):** Not regulated
- **EPCRA SECTIONS 311/312 HAZARD CATEGORIES (40 CFR 370.21):**
  Acute Health Hazard
- **EPCRA SECTION 313 (40 CFR 372.65):** Not regulated.
- **OSHA PROCESS SAFETY (PSM) (29 CFR 1910.119):** Not regulated
- **FIFRA REGULATIONS:** Registered pesticide under 40 CFR 152.10, Federal Insecticide, Fungicide and Rodenticide Act (FIFRA): EPA Registration Number: 5382-43 (Technical Sodium Chlorite Solution 31.25); EPA Registration Number: 5382-44 (Technical Sodium Chlorite Solution 18.75); EPA Registration Number: 5382-45 (31% Active Sodium Chlorite)

NATIONAL INVENTORY STATUS

- **U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA):** All components are listed or exempt
- **TSCA 12(b):** This product is not subject to export notification
- **Canadian Chemical Inventory:** All components are listed on either the DSL or the NDSL

STATE REGULATIONS

	Sodium chlorite	
	California Proposition 65 Cancer WARNING:	Not Listed
	California Proposition 65 CRT List - Male reproductive toxin:	Not Listed
	California Proposition 65 CRT List - Female reproductive toxin:	Not Listed
	Massachusetts Right to Know Hazardous Substance List	Not Listed
	New Jersey Right to Know Hazardous Substance List	1689
	New Jersey Special Health Hazards Substance List	corrosive; reactive - second degree
	New Jersey - Environmental Hazardous Substance List	Not Listed
	Pennsylvania Right to Know Hazardous Substance List	Not Listed
	Pennsylvania Right to Know Special Hazardous Substances	Not Listed
	Pennsylvania Right to Know Environmental Hazard List	Not Listed
	Rhode Island Right to Know Hazardous Substance List	Not Listed

Sodium chloride	
California Proposition 65 Cancer WARNING:	Not Listed
California Proposition 65 CRT List - Male reproductive toxin:	Not Listed
California Proposition 65 CRT List - Female reproductive toxin:	Not Listed
Massachusetts Right to Know Hazardous Substance List	Not Listed
New Jersey Right to Know Hazardous Substance List	Not Listed
New Jersey Special Health Hazards Substance List	Not Listed
New Jersey - Environmental Hazardous Substance List	Not Listed
Pennsylvania Right to Know Hazardous Substance List	Not Listed
Pennsylvania Right to Know Special Hazardous Substances	Not Listed
Pennsylvania Right to Know Environmental Hazard List	Not Listed
Rhode Island Right to Know Hazardous Substance List	Not Listed

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

Canada – CEPA Schedule I - Toxic Substance List: Not Listed

Canadian Chemical Inventory: Listed

WHMIS - Classifications of Substances

- D1A - Poisonous and Infectious Material; Materials causing immediate and serious toxic effects - Very toxic material
- D1B - Poisonous and Infectious Material; Materials causing immediate and serious toxic effects - Toxic material
- E - Corrosive material

PCP Registration:

- Technical Sodium Chlorite Solution 31.25 is registered as a pesticide in Canada under PCP Reg No. 26203 under the product name Sodium Chlorite Solution 31.25.

16. OTHER INFORMATION

Prepared by: OxyChem Corporate HESS – Product Stewardship

HMIS: (SCALE 0-4) (Rated using National Paint & Coatings Association HMIS: Rating Instructions, 2nd Edition)

Health: 3 **Flammability:** 0 **Reactivity:** 1

NFPA 704 - Hazard Identification Ratings (SCALE 0-4)

Health: 3 **Flammability:** 0 **Reactivity:** 1

Reason for Revision:

- Updated 24 Hour Emergency Telephone Number: SEE SECTION 1
- Updated FIFRA Regulations: SEE SECTION 15
- Updated Canadian Regulatory information: SEE SECTION 15
- Revised Preparer Information: SEE SECTION 16

- Added/Updated Revision Log: SEE SECTION 16
- Added "End of Safety Data Sheet" phrase

IMPORTANT:
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OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, material safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Material Safety Data Sheet available to your employees.

End of Safety Data Sheet