



## SAFETY DATA SHEET

### Chlorine Dioxide Solution < 5000 ppm

#### SECTION 1: PRODUCT INFORMATION

**Product Name:** Chlorine Dioxide Solution < 5000 ppm

**Identity:** Chlorine Dioxide Solution

**Product Use:** Downhole oil and gas well, water treatment, gas fumigation..

**Manufacturer/Supplier:**

Sabre Oxidation Technologies, Inc.  
1891 New Scotland Road  
Slingerlands, NY 12159  
Regulatory Telephone Number: (518) 514.1572  
Emergency Telephone Number (CHEMTREC): 800-424-9300 (24 hours)

#### SECTION 2: HAZARD IDENTIFICATION

This product is hazardous according to OSHA 29 CFR 1910. 1200 Hazard Communication Standard.

**Classification (OSHA HCS 2012):**

Eye Irritant: Category 2B

**Label elements (OSHA HCS 2012)**

Signal Word: WARNING

**Hazard statements:**

Causes eye irritation. – H320

## Precautionary Statements:

### Prevention:

Wash hands thoroughly after handling. – P264

### Response:

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

If eye irritation persists: Get medical advice/attention.– P 337 + P313

## SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

### Chemical Identity

Component	CAS No.	Weight %
Chlorine Dioxide	10049-04-4	<0.5
Water	7732-18-5	>99.5

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### Ingestion:

First aid is not normally required. If symptoms develop, seek medical attention.

#### Eye Contact:

If symptoms develop, rinse eyes with plenty of fresh water while holding eyelids open, lifting eyelids occasionally to ensure complete removal of the product. Remove contact lenses if appropriate and easy to do. If irritation persists, seek medical advice/attention.

#### Skin Contact:

First aid is not normally required. However, it is recommended that exposed area be rinsed with soap and water.

### **Inhalation:**

If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration, if breathing is difficult, seek medical attention.

### **Most important symptoms and effects, both acute and delayed:**

Eye irritation. Note: Chlorine dioxide in sufficient concentrations can cause irritation and damage to the eye, skin and respiratory tract.

## **SECTION 5: FIRE FIGHTING INFORMATION**

### **Suitable Extinguishing Media:**

Use measures suitable for extinguishing surrounding fire.

### **Specific Hazards arising from the chemical mixture:**

Non-flammable. Chlorine dioxide gas is explosive at concentrations of 10% (100,000 ppm) or greater in air. Potential hazardous products of combustion include: chlorine, hydrochloric acid gas and oxygen.

### **Special Protective Equipment and Precautions for Firefighters:**

Wear a self-contained breathing apparatus with a full-face piece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to Section 8.

## **SECTION 6: ACCIDENT RELEASE MEASURES**

### **Personal Precautions**

Avoid contact with skin and eyes. Do not breathe vapors, fumes or mist. Wear a NIOSH approved respirator when necessary.

### **Methods and materials for containment and cleaning up**

**Small spill:** Absorb liquid on vermiculite, floor absorbent or other absorbent material. Flush area with water.

**Large spill:** Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that spill has occurred. Persons not wearing personal



protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source, dike area of spill to prevent spreading, pump liquid to salvage tank. Remaining liquid may be taken up on sand, clay, earth, floor absorbent or other absorbent material and shoveled into containers. Flush area with water.

## SECTION 7: STORAGE AND HANDLING

### Precautions for safe handling

Wear protective clothing and eye protection. Avoid contact with eyes and skin. Avoid breathing mist, vapor, or spray. Use in a well-ventilated area. Handling agitation of product should be minimized to prevent the evolution of chlorine dioxide gas into the breathing zone of workers.

### Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Store in a cool, dry, well ventilated place.

## SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control Parameters

Chemical Name	Type	Exposure Limit Value	Source
Chlorine Dioxide	PEL	0.1 ppm	OSHA
	TLV	0.1 ppm	ACGIH
	STEL	0.3 ppm	ACGIH
	IDLH	5.0 ppm	NIOSH

### Engineering controls

Provide sufficient mechanical (general and/or local) exhaust ventilation to maintain exposure below occupational exposure limit.

### Personal Protective Equipment

#### Respiratory protection:

Wear a NIOSH approved respirator when appropriate. Monitoring results must be used to assess the proper level of respiratory protection to be used. Proper engineering and/or administrative controls should be used to reduce worker exposure. The facility's respiratory

protection program must meet the requirements established in 29 CFR 1910.134 which include a program for medical evaluation.

**Hand protection:**

Wear chemical resistant gloves such as neoprene to prevent skin contact.

**Eye protection:**

Wear safety glasses in compliance with OSHA regulations. (Consult your safety representative).

**Skin and body protection:**

Wear impervious clothing and boots. Other protective equipment: eyewash station, emergency shower.

**Hygiene measures:**

Avoid contact with skin, eyes and clothing. When using, do not eat or drink. Wash hands thoroughly with soap and water before eating or drinking. Remove contaminated clothing and launder before reuse

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Yellow, reddish liquid
<b>Physical Form:</b>	Liquid
<b>Odor:</b>	Chlorine-like
<b>Odor Threshold:</b>	0.1 ppm
<b>pH:</b>	3.0 - 7.0
<b>Boiling Point:</b>	100°C
<b>Melting Point:</b>	Not applicable
<b>Flash Point:</b>	Not applicable
<b>Evaporation Rate (ether = 1):</b>	< 1
<b>Flammability:</b>	Not flammable
<b>Vapor Pressure:</b>	1705 mmHg (Water)
<b>Vapor density:</b>	Not available
<b>Specific Gravity (77°F):</b>	1.0 (Water)
<b>Density:</b>	8.320 lbs/gal @ 77°F
<b>Solubility in Water:</b>	Soluble
<b>Partition Coefficient: n-octanol/water:</b>	Not applicable
<b>Auto-ignition Temperature:</b>	Not applicable
<b>Decomposition Temperature:</b>	Not available

## SECTION 10: STABILITY AND REACTIVITY DATA

### Reactivity:

Not reactive under normal temperatures and pressures.

### Stability:

Stable

### Possibility of hazardous reactions:

None known

### Conditions to Avoid:

Avoid heat, flames, sparks and other sources of ignition. Avoid contamination with foreign materials. Avoid exposure to sunlight or ultraviolet light. Avoid mechanical shock or impact, if contaminated. Avoid contact with acids, chlorine, oxidizing agents, reducing agents, sulfur containing compounds, combustible materials and solvents.

### Incompatible materials:

Metals, reducing agents, strong oxidizers, sulfur compounds.

### Hazardous decomposition products:

May form: chlorine, hydrochloric acid gas, oxygen.

## SECTION 11: TOXICOLOGICAL INFORMATION

Route(s) of entry/exposure: Inhalation, Skin, Eye, Ingestion

### Acute Effects:

Chlorine dioxide gas is a mucous membrane and respiratory tract irritant.

### Carcinogenicity:

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP, IARC or OSHA.



## SECTION 12: ECOLOGICAL INFORMATION

### **Toxicity:**

No data on finished product.

### **Degradation:**

Not applicable

### **Bioaccumulation:**

No data available

## SECTION 13: DISPOSAL CONSIDERATIONS

**RCRA Hazard Class:** None

### **Waste Management Information:**

Any disposal practices must be in compliance with all local, state and federal laws and regulations (contact local or state environmental agency for specific rules).

## SECTION 14: TRANSPORT INFORMATION

### **For Domestic Shipments:**

Chlorine dioxide solutions may not be transported in commerce.

## SECTION 15: REGULATORY INFORMATION

**OSHA Regulatory Status (29 CFR 1910.1200):**

This product is not considered hazardous.

**SARA Section 311/312 Hazards (40 CFR 370.2):**

Immediate (Acute)

**CERCLA Reportable Quantity (40 CFR 117, 302):**

This product contains the following regulated compounds: None

**SARA 302 Threshold Planning Quantity (40 CFR 355, Appendix A):**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Ingredients (40 CFR 372):**

Component	CAS#	%
Chlorine Dioxide	10049-04-4	0.4

**OSHA Process Safety Management (29 CFR 1910):**

PSM Component	TQ (lbs)
Chlorine Dioxide	100

**EPA Accidental Release Prevention (40 CFR 68)**

RMP Component	TQ (lbs)
Chlorine Dioxide (Chlorine Oxide (ClO <sub>2</sub> ))	100

**Clean Air Act:**

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Section 12 (40 CFR 61).

**U.S. State Regulations:**

The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): Chemicals known to the State of California to cause cancer are NOT present in this product at levels which pose "Significant Risk." [22 CCR 12705 (b)]

**Notification Status:**

All components of this product are on the TSCA Inventory.



## SECTION 16: OTHER INFORMATION

### Hazard Ratings

NFPA Rating	
Fire	0
Health	1
Reactivity	1

### IMPORTANT:

This SDS is intended to provide a brief summary of our knowledge and guidance regarding the use of this material as of the date it is issued. The information contained here has been compiled from sources considered to be dependable and is accurate to the best of the Sabre Oxidation, LLC knowledge. It is not meant to be an all-inclusive document on worldwide hazard communication regulations. The information presented herein, while not guaranteed, was prepared by technical personnel and is true and accurate to the best of our knowledge. NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTY OR GUARANTY OF ANY OTHER KIND,EXPRESSED OR IMPLIED, IS MADE REGARDING PERFORMANCE, SAFETY, SUITABILITY, STABILITY OR OTHERWISE. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, storage, disposal and other factors that may involve other or additional legal, environmental, safety or performance considerations, and Sabre assumes no liability whatsoever for the use of or reliance upon this information. While our technical personnel will be happy to respond to questions, safe handling and use of the product remains the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as, a recommendation to infringe any existing patents or to violate any Federal, State, local or foreign laws.

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, 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 Safety Data Sheet available to your employees.

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Reason for Issue: Compliance with OSHA HCS 2012

Prepared by: Product Stewardship Coordinator

Technical Department