

5382-45

5/9/2013

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

May 9, 2013

Ms. Kindra Levels, Product Stewardship Specialist  
Occidental Chemical Corporation  
P.O. Box 809050  
Dallas, Texas 75380-9050

SUBJECT: 31% Active Sodium Chlorite Solution  
EPA Registration Number: 5382-45  
Application Date: April 3, 2013  
Application Receipt: April 10, 2013

Dear Ms. Levels:

This acknowledges receipt of the above notification application, submitted under the provision of PR Notice 98-10, FIFRA 3 (c) 9.

Proposed Notification:

Occidental Chemical Corporation proposes to place the NSF logo on their label.

General Comments:

The Notification application is **acceptable**. The company complied with the Agency's rules regarding placement of the NSF logo. If you have any questions or comments with regard to this Agency letter, please contact Nathan Mottl via email at [mottl.nathan@epa.gov](mailto:mottl.nathan@epa.gov) or by telephone at 703-305-0208.

Sincerely,

A handwritten signature in black ink that reads "Mike Mendelsohn".

Mike Mendelsohn  
Acting EPA Product Manager (32)  
Regulatory Management Branch II  
Antimicrobials Division (7510P)

Please read instructions on reverse before completing form.

Form Approved

1B No. 2070-0060



United States  
Environmental Protection Agency  
Washington, DC 20460

<input type="checkbox"/>	Registration
<input type="checkbox"/>	Amendment
<input checked="" type="checkbox"/>	Other

OPP Identifier Number

### Application for Pesticide - Section I

1. Company/Product Number Occidental Chemical Corporation / 5382-45	2. EPA Product Manager Monisha Harris	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Occidental Chemical Corporation / 31% Active Sodium Chlorite Solution	PM# 32	
5. Name and Address of Applicant (Include ZIP Code) Occidental Chemical Corporation P.O. Box 809050 - Attn: Kindra Levels Dallas, TX. 75380-9050 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. <u>N/A - Not Applicable</u> Product Name <u>N/A - Not Applicable</u>	

### Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Approved NSF logo added as per guidance letter by Mr. Frank Sanders of EPA, to Mr. Kenji Yano of NSF. This notification is consistent with the provisions of PR Notices 98-10 and EPA regulations in 40 CFR 152.46, and no other changes have been made to this product' labeling or to its confidential statement of formula (CSF). I understand it is a violation of 18 USC Sec 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

### Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	<input type="checkbox"/> Plastic
* Certification must be submitted	If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container	<input type="checkbox"/> Glass
					<input type="checkbox"/> Paper
					<input type="checkbox"/> Other (Specify) _____
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input type="checkbox"/> Other _____		

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Kindra Levels	Title Product Stewardship Specialist	Telephone No. (include Area Code) 972-404-3446	
<p align="center"><b>Certification</b></p> <p>I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment both under applicable law.</p>			6. Date Application Received (Stamped)
2. Signature 		3. Title Product Stewardship Specialist	
4. Typed Name Kindra Levels		5. Date April 3, 2013	



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April 3, 2013

Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
1200 Pennsylvania Ave., NW  
Washington, DC 20460

USPS Certified Mail#: 7012 1010 0002 2591 7181

RE: Notification to add the NSF logo to the 31% Active Sodium Chlorite Solution label – (EPA Reg. No: 5382-45)

Dear Madam or Sir:

Enclosed is the EPA 8570-1 form, marked as a notification submission, being submitted to add the National Sanitation Foundation (NSF) logo to Occidental Chemical Corporation's existing label for 31% Active Sodium Chlorite Solution, EPA Reg. No. 5382-45. This notification is being submitted in accordance with PR Notice 98-10.

The following documents have been enclosed in support of this notification:

- Application for Pesticide Registration, EPA Form 8570-1
- One (1) copy of the letter from Mr. Frank Sanders, Director of Antimicrobial Division, to Mr. Kenji Yano of NSF, providing guidance on the use of the NSF logo
- A copy of the approved NSF logos from the NSF website:  
[http://www.nsf.org/business/water\\_distribution/download\\_marks.asp?program=WaterDistributionSys](http://www.nsf.org/business/water_distribution/download_marks.asp?program=WaterDistributionSys)
- One (1) copy of the proposed modification of the 31% Active Sodium Chlorite Solution label text that bears the actual NSF logo and any associated language
- One (1) copy of the proposed modification of the final 31% Active Sodium Chlorite Solution label that bears the actual NSF logo and any associated language

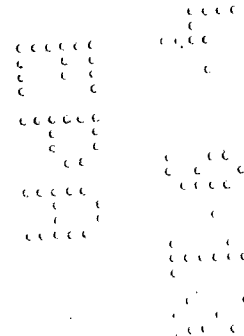
As stated on the 8570-1 form, the only change made to the label was the addition of the NSF logo.

Should you have any questions regarding this notification, please give me a call at (972)404-3446, or you may email me at [Kindra.Levels@oxy.com](mailto:Kindra.Levels@oxy.com).

Sincerely,

Kindra Levels – Product Stewardship Specialist  
Occidental Chemical Corporation  
Phone: 972-404-3446, Fax: 972-404-3219  
Email: [Kindra.Levels@oxy.com](mailto:Kindra.Levels@oxy.com)

Enclosures



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[Home](#) > [Business](#) > [Water Distribution](#)

## Download Certification Marks



### How to Download NSF Marks:

Select the appropriate graphic format under the mark you wish to download, then click on the link to begin the download process. To ensure that they download properly, the files have been zipped. To unzip the files, use an archive utility, such as WinZip. These files are provided in a form designed for use on printed materials. If you do not know the correct graphic format you need, follow these basic guidelines:

- Select "EPS" if you plan to significantly increase or decrease the size of the mark. (Note: EPS graphic files are not pixel based and may be sized at will with no decrease in image quality.)
- Select "JPG" if you are using a Windows, Macintosh, or UNIX operating system and plan to use the the mark in a page layout program, such as Adobe PageMaker, or if you wish to use this mark on the Internet, such as on your home page. If you wish to make this mark "clickable" to access NSF International's site, please use the following code: `<a href="http://www.nsf.org"></a>`

If you need assistance downloading any NSF Mark, please email [webmaster@nsf.org](mailto:webmaster@nsf.org).

### NSF Std. 60/Std. 61 Certification Marks

For additional information, please look over our [About the Mark](#) section. For further details about product marking, contact your certification project manager. Additional colors and formats of NSF Marks are available on the general [NSF Marks Download](#) page.



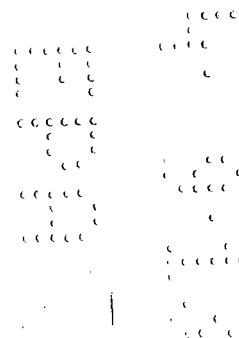
Certified to  
NSF/ANSI 60

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NSF/ANSI 60

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### NSF - 60

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Certified to NSF/ANSI 61

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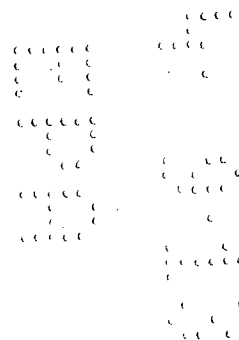
### NSF - 61

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Certified to NSF/ANSI 61 Section 9

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Certified to NSF/ANSI 61  
Section 9

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Certified to NSF/ANSI 61  
Section 9

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NSF - 61/9

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### NSF Std. 61 - Annex G - Certification Marks

These marks indicate that your product has been certified to NSF/ANSI Standard 61 **plus** Annex G, the optional low-lead annex of the standard. If you have any confusion as to your certification, please refer to the NSF Listings page or contact your NSF Certification project manager.



Certified to  
NSF/ANSI 61-G

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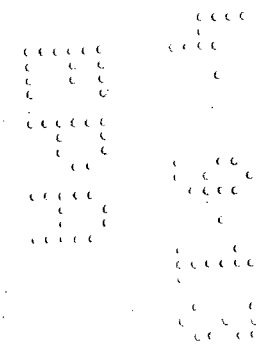
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NSF/ANSI 61-G

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Certified to NSF/ANSI 61  
Section 9-G

EPS | JPG





Certified to NSF/ANSI 61  
Section 9-G

EPS | JPG



Certified to NSF/ANSI 61  
Section 9-G

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## NSF-372 - Certification Marks



Certified to  
NSF/ANSI 372

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Certified to  
NSF/ANSI 372

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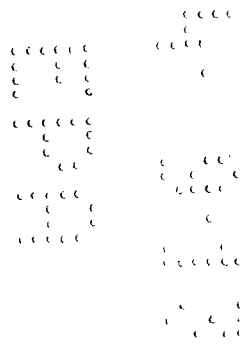


Certified to  
NSF/ANSI 372

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## NSF-372

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{ All text in brackets [xx] optional and may or may not be included ( a final label)  
{All text in braces {xxx} is administrative and will not appear on a final label}

# 31% ACTIVE SODIUM CHLORITE SOLUTION

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS & DOMESTIC ANIMALS

**DANGER. Corrosive.** Causes irreversible eye damage and skin burns. Harmful if swallowed. Irritating to nose and throat. Do not get in eyes, on skin or on clothing. Wear protective eyewear (splashproof goggles). Wear protective clothing and rubber gloves when handling this product. Avoid breathing mists or fumes. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse to avoid fire.

### ENVIRONMENTAL HAZARDS

This product is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to the discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

### CHEMICAL HAZARDS

Dry sodium chlorite is a strong oxidizing agent. This product becomes a fire or explosive hazard if allowed to dry. Mix only into water. 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 garbage, dirt, organic matter, household products, chemicals, soap products, paint products, solvents, acids, vinegar, beverages, oils, pine oil, dirty rags, or any other foreign matter.

### DIRECTIONS FOR USE

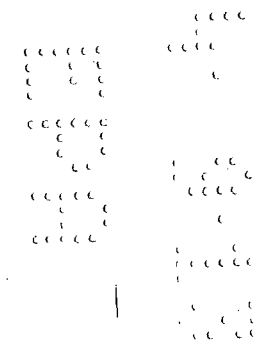
It is a violation of Federal law to use the product in a manner inconsistent with its labeling.

#### Directions for Controlling the Growth of Algae in Recirculating Cooling Water Towers

1. Clean badly fouled systems before starting treatment.
2. When algae are visible, add an initial dosage of 6.6 fluid ounces of Sodium Chlorite per 1,000 gals. of water in the system. Repeat if necessary until control is evident.
3. Where algae control is evident, use a subsequent dose of 3.3 fluid ounces of Sodium Chlorite solution per 1,000 gals. of water in the system twice a week or as needed to maintain control.
4. Add Sodium Chlorite directly to the cooling tower drip pan (cold water basin) near the inlet to the recirculating pump.

#### Directions for Use in the Mechanical Generation of Chlorine Dioxide as a Disinfectant, or for Microorganism or Mollusk Control and as a Chemical Oxidant in Aquatic Systems.

**Feed requirements:** Feed rates of 31% Active Sodium Chlorite Solution will depend on the severity of contamination and the degree of control desired. The exact dosage will depend on the size of the system and residual necessary for effective control. 31% Active Sodium Chlorite Solution is typically diluted at the point of use to prepare a 3% to 25% active aqueous solution for use in chlorine dioxide generators.





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{ All text in brackets [xx] optional and may or may not be included ( a final label)  
{All text in braces {xxx} is administrative and will not appear on a final label}

ACTIVE INGREDIENT: Sodium Chlorite\* .....31%  
OTHER INGREDIENTS: .....69%  
\*AVAILABLE CHLORINE .....48.6%

CONTAINS 3.3 LBS. OF SODIUM CHLORITE  
PER GALLON AT 70°F

<b>KEEP OUT OF REACH OF CHILDREN</b>	
<b>DANGER</b>	
<b>FIRST AID</b>	
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor immediately for treatment advice.</li> </ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice if burning or irritation of the skin persists.</li> </ul>
<b>If swallowed:</b>	<ul style="list-style-type: none"> <li>• Have person drink a glass of water immediately if able to swallow.</li> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air and monitor for respiratory distress.</li> <li>• If cough or difficulty in breathing develops, consult a physician immediately.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>For emergency information call: 800-733-3665 (24 hours)</b> Have the product container or label with you when calling a poison control center or doctor or going to treatment	
<b>NOTE TO PHYSICIAN:</b> Probable mucosal damage may contraindicate the use of gastric lavage.	

Manufactured By:



**Occidental Chemical Corporation**  
**P.O.Box 809050**  
**Dallas, TX. 75380-9050**

EPA Reg. No. 5382-45

EPA Est. 5382-KS-1  
 EPA Est. 70547-IL-1

Gals. Net ( \_\_\_\_\_ )

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{ All text in brackets [xx] optional and may or may not be included a final label}  
{All text in braces {xxx} is administrative and will not appear on a final label}

Some examples of industrial applications of chlorine dioxide include:

- Potable water disinfection and removal of sulfide.
- Control of bacterial slime and algae and mollusks in industrial recirculating and one-pass cooling systems.
- Biocontrol in food processing flumes, water-using equipment, cooling water, and recycled waters.
- Disinfection of sewage and plant wastes.
- Destruction of phenolics, simple cyanides and sulfides by chemical oxidation.
- Bacterial slime control in white water paper mill systems.
- Bacterial control in oil well and petroleum systems.

**See product bulletins (or Technical Data Sheets) for specific application instructions. Your Occidental Chemical Corporation representative can guide you in the application techniques.**

**Method of feed:** Large amounts of chlorine dioxide can be generated by two common methods, including:

1. The chlorine method which utilizes a Sodium Chlorite solution and chlorine gas, or
2. The hypochlorite method which utilizes a Sodium Chlorite solution, a hypochlorite solution, and an acid.
3. The electrolytic method, which utilizes a Sodium Chlorite solution, with sodium chloride added, as needed.

Your Occidental Chemical Corporation representative can guide you in the selection, installation and operation for feed systems. Consult product bulletin and also the instructions on the chlorine dioxide generation system before using 31% Active Sodium Chlorite Solution.

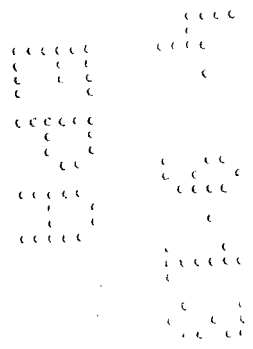
User is responsible for compliance with applicable Federal, state and local laws regarding proper use and disposal of the chlorine dioxide generated.

**Potable Water Treatment**

Chlorine dioxide (ClO<sub>2</sub>) is used as both an oxidant and a disinfectant in drinking water treatment. The required dosages will vary with source water conditions and the degree of contamination present. For most municipal and public potable water systems, a chlorine dioxide residual concentration of up to 2 ppm is sufficient to provide adequate disinfection. Residual disinfectant and disinfection byproducts must be monitored as required by the National Primary Drinking Water Regulations (40 CFR Part 141) and state drinking water standards.

**Industrial Cooling Water Treatment**

For control of bacterial slime and algae in industrial recirculating and one-pass cooling systems, the required dosages will vary depending on the exact application and the degree of contamination present. The required chlorine dioxide residual concentrations range between 0.1 and 5.0 ppm. Chlorine dioxide may be applied either continuously or intermittently. The typical chlorine dioxide residual concentration range is 0.1 - 1.0 ppm for continuous doses, and 0.1 - 5.0 ppm for intermittent doses. The minimum acceptable residual concentration of chlorine dioxide is 0.1 ppm for a minimum one minute contact time.



{ All text in brackets [xx] optional and may or may not be included ( a final label)  
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**Mollusk Control in Water Systems**

Chlorine dioxide generated from sodium chlorite may be used for mollusk control in commercial and industrial recirculating and one-pass cooling water systems. The required dosages will vary with the system type, system conditions, the degree of water contamination present and the desired level of control. Depending on the extent of the infestation, sodium chlorite may be applied either continuously or intermittently through a chlorine dioxide generating system to achieve the necessary chlorine dioxide residual concentration.

Veliger Control: Maintain a continuous chlorine dioxide residual of 0.1 - 0.5 ppm.

Intermittent Dose: Apply chlorine dioxide to obtain a chlorine dioxide residual concentration of 0.2 - 25 ppm. Repeat as necessary to maintain control.

Continuous Dose: Maintain a chlorine dioxide residual concentration of up to 2 ppm.

**Food Plant Process Water Treatment**

Chlorine dioxide generated from sodium chlorite is effective for use in controlling microbiological growth in flume water and other food processing water systems such as chill water systems and hydrocoolers. The required dosages will vary with process conditions and the degree of contamination present. Depending on the requirements of the specific water system, sodium chlorite should be applied continuously or intermittently through a chlorine dioxide generating system to achieve a chlorine dioxide residual concentration between 0.25 and 5.0 ppm.

Water, containing up to 3 ppm residual chlorine dioxide may be used for washing fruits and vegetables that are not raw agricultural commodities in accordance with 21CFR§173.300. Treatment of the fruits and vegetables with chlorine dioxide must be followed by a potable water rinse, or by blanching, cooking or canning.

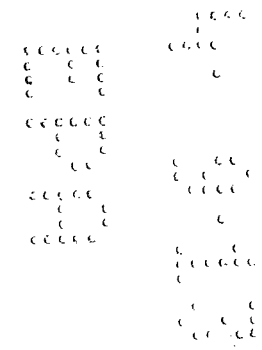
**Wastewater Treatment**

Chlorine dioxide (ClO<sub>2</sub>) is effective as both a disinfectant and an oxidant in wastewater treatment. The required dosages will vary with water conditions and the degree of contamination present. For most municipal and other wastewater systems, a chlorine dioxide residual concentration of up to 5 ppm is sufficient to provide adequate disinfection.

For sulfide odor control, between pH 5-9, a minimum of 5.2 ppm (wt) of chlorine dioxide should be applied to oxidize 1 ppm of sulfide (measured as sulfide ion). For phenol destruction, at pH less than 8, 1.5 ppm chlorine dioxide will oxidize 1 ppm phenol; at pH greater than 10, 3.3 ppm chlorine dioxide will oxidize 1 ppm phenol.

**Bacterial Slime Control in Paper Mills**

Chlorine dioxide generated from sodium chlorite is effective for use in controlling microbiological growth in white water paper mill systems. The required dosages will vary with the degree of microbiological and process contamination present. Depending on the specific requirements of the system, sodium chlorite should be applied continuously or intermittently through a chlorine dioxide generating system to achieve a chlorine dioxide residual concentration between 0.1 and 5.0 ppm. Intermittent treatments should be repeated as often as necessary to maintain control.



{ All text in brackets [xx] optional and may or may not be included ( a final label)  
{All text in braces {xxx} is administrative and will not appear on a final label}



**Bacterial Control In Oil Wells And Petroleum Systems**

Chlorine dioxide is effective in the remediation of bacterial and sulfide contamination commonly found in oilfield production, injection and disposal fluids. The required dosages will vary with process conditions. Sodium chlorite may be applied either continuously or intermittently through a chlorine dioxide generating system to oil well production water as it is separated from the oil, and before it is re-injected into the well. For continuous feeds, chlorine dioxide may be applied at dosages slightly higher than sulfide's oxidative demand as determined by a demand study. For intermittent treatment, chlorine dioxide should be applied at a shock dosage of 200 - 3000 ppm.

**STORAGE AND DISPOSAL**

**STORAGE:** Do not contaminate water, food, or feed by storage or disposal. Keep product in tightly closed container when not in use. Don't drop, roll or skid drum. Keep upright. Always replace cover. Store in a cool, dry well-ventilated area away from heat or open flame.

**EMERGENCY HANDLING:** In case of contamination or decomposition, do not reseal container. If possible, isolate container in open and well ventilated area. Flood with large volumes of water. If fire occurs, extinguish fire by applying large quantities of water. Any unopened drums near the fire should be cooled by spraying with water.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

{Text for non-refillable liquid containers that are 5 gallons or smaller}

**CONTAINER DISPOSAL: Nonrefillable Container.**

Do not reuse or refill this container. Offer for recycling if available. Offer for reconditioning if appropriate. Triple Rinse or Pressure Rinse container promptly after emptying.

Triple Rinse 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.

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 at about 40 PSI for at least 30 seconds. Drain for 10 seconds, after the flow begins to drip.

{Text for non-refillable liquid containers that are larger than 5 gallons}

**CONTAINER DISPOSAL: Nonrefillable Container.**

Do not reuse or refill this container. Offer for recycling if available. Offer for reconditioning if appropriate. Triple Rinse or Pressure Rinse container promptly after emptying.

Triple Rinse 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.

{Text for refillable liquid containers}

**CONTAINER DISPOSAL: Refillable Container.**

Refill this container with [31% Active Sodium Chlorite Solution] [Supplemental distributor brand name] only. Do not reuse this container for any other purpose.

Cleaning or pressure rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing process two more times.

To pressure rinse the container before final disposal, 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 at about 40 PSI for at least 30 seconds. Drain for 10 seconds, after the flow begins to drip.

# 31% ACTIVE SODIUM CHLORITE SOLUTION

**PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS & DOMESTIC ANIMALS**

**DANGER. Corrosive.** Causes irreversible eye damage and skin burns. Harmful if swallowed. Irritating to nose and throat. Do not get in eyes, on skin or on clothing. Wear protective eyewear (splashproof goggles). Wear protective clothing and rubber gloves when handling this product. Avoid breathing mists or fumes. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse to avoid fire.

**ENVIRONMENTAL HAZARDS**

This product is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to the discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

**CHEMICAL HAZARDS**

Dry sodium chlorite is a strong oxidizing agent. This product becomes a fire or explosive hazard if allowed to dry. Mix only into water. 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 garbage, dirt, organic matter, household products, chemicals, soap products, paint products, solvents, acids, vinegar, beverages, oils, pine oil, dirty rags, or any other foreign matter.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use the product in a manner inconsistent with its labeling.

**Directions for Controlling the Growth of Algae in Recirculating Cooling Water Towers**

1. Clean badly fouled systems before starting treatment.
2. When algae are visible, add an initial dosage of 6.6 fluid ounces of Sodium Chlorite per 1,000 gals. of water in the system. Repeat if necessary until control is evident.
3. Where algae control is evident, use a subsequent dose of 3.3 fluid ounces of Sodium Chlorite solution per 1,000 gals. of water in the system twice a week or as needed to maintain control.
4. Add Sodium Chlorite directly to the cooling tower drip pan (cold water basin) near the inlet to the recirculating pump.

**Directions for Use in the Mechanical Generation of Chlorine Dioxide as a Disinfectant, or for Microorganism or Mollusk Control and as a Chemical Oxidant in Aqueous Systems.**

**Feed requirements:** Feed rates of 31% Active Sodium chlorite Solution will depend on the severity of contamination and the degree of control desired. The exact dosage will depend on the size of the system and residual necessary for effective control. 31% Active Sodium Chlorite Solution is typically diluted to the point of use to prepare a 3% to 25% active aqueous solution for use in chlorine dioxide generators.

**ACTIVE INGREDIENT:** Sodium Chlorite ..... 31%  
**OTHER INGREDIENTS:** ..... 69%  
**\*AVAILABLE CHLORINE** ..... 46.5%  
**CONTAINS 3.3 LBS. OF SODIUM CHLORITE PER GALLON AT 70°F**

KEEP OUT OF REACH OF CHILDREN	
<b>DANGER</b> FIRST AID	
<b>If in eyes:</b>	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor immediately for treatment advice.
<b>If on skin or clothing:</b>	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice if burning or irritation of the skin persists.
<b>If swallowed:</b>	• Have person drink a glass of water if able to swallow. • Call a poison control center or doctor immediately for treatment advice. Do not do so by the poison control center or doctor, if you are not sure of the product. • Do not get anything by mouth to an unconscious person.
<b>If inhaled:</b>	• Move person to fresh air and monitor for respiratory distress. • If slight difficulty in breathing develops, consult a physician immediately. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, if possible, by mouth-to-mouth method. Call a poison control center or doctor for further treatment advice.
For emergency information call: 800-733-2665 (24 hrs) Have the product container or label with you when calling a poison control center or doctor or going to treatment.	
<b>NOTE TO PHYSICIAN:</b> Probable mucosal damage may contraindicate the use of gastric lavage.	

**Manufactured By:**



**Occidental Chemical Corporation**  
**P. O. Box 809050**  
**Dallas, TX 75380-9050**

**EPA Reg. No. 5382-45**  
**EPA Est. 5382-KS-1**  
**EPA Est. 70547-IL-1**

Gals. Net ( )

Some examples of industrial applications of chlorine dioxide include:

- Potable water disinfection and removal of sulfide.
- Control of bacterial slime and algae and mollusks in industrial recirculating and one-pass cooling systems.
- Biocontrol in food processing fumes, water-using equipment, cooling water, and recycled waters.
- Disinfection of sewage and plant cyanides and sulfides by chemical oxidation.
- Bacterial slime control in white water paper mill systems.
- Bacterial control in oil well and petroleum systems.

**See product bulletins (or Technical Data Sheets) for specific application instructions. Your Occidental Chemical Corporation representative can guide you in the application techniques.**

**Method of feed:** Large amounts of chlorine dioxide can be generated by common methods, including:

1. The chlorine method which utilizes a Sodium Chlorite solution and chlorine gas, or
2. The hypochlorite method which utilizes a Sodium Chlorite solution, a hypochlorite solution, and an acid, or
3. The electrolytic method, which utilizes a Sodium Chlorite solution, with sodium chloride added, as needed.

Your Occidental Chemical Corporation representative can guide you in the selection, installation and operation for feed systems. Consult product bulletin and also the instructions on the chlorine dioxide generation system before using 31% Active Sodium Chlorite Solution.

User is responsible for compliance with applicable Federal, state and local laws regarding proper use and disposal of the chlorine dioxide generated.

**Potable Water Treatment**  
 Chlorine dioxide (ClO<sub>2</sub>) is used as both an oxidant and a disinfectant in drinking water treatment. The required dosages will vary with source water conditions and the degree of contamination present.

For most municipal and public potable water systems, a chlorine dioxide residual concentration of up to 2 ppm is sufficient to provide adequate disinfection.

**Industrial Cooling Water Treatment**  
 For control of bacterial slime and algae in industrial recirculating and one-pass cooling systems, the required dosages will vary depending on the exact application and the degree of contamination present. The required chlorine dioxide residual concentrations range between 0.1 and 5.0 ppm. Chlorine dioxide may be applied either continuously or intermittently. The typical chlorine dioxide residual concentration range is 0.1 - 1.0 ppm for continuous dosages, and 0.1 - 5.0 ppm for intermittent dosages. The minimum acceptable residual concentration of chlorine dioxide is 0.1 ppm for a minimum one minute contact time.

**Mollusk Control in Water Systems**  
 Chlorine dioxide generated from sodium chlorite may be used for mollusk control in commercial and industrial recirculating and one-pass cooling water systems. The

required dosages will vary with the system type, system conditions, the degree of water contamination present and the desired level of control. Depending on the extent of the infestation, sodium chlorite may be applied either continuously or intermittently through a chlorine dioxide generating system to achieve the necessary chlorine dioxide residual concentration.

**Veiliger Control:** Maintain a continuous chlorine dioxide residual of 0.1 - 0.2 ppm.

**Intermittent Dose:** Apply chlorine dioxide to obtain a chlorine dioxide residual concentration of 0.2 - 25 ppm. Repeat as necessary to maintain control.

**Continuous Dose:** Maintain a chlorine dioxide residual concentration of up to 2 ppm.

**Food Plant Process Water Treatment**  
 Chlorine dioxide generated from sodium chlorite is effective for use in controlling microbiological growth in flume water and other food processing water systems such as chill water, systems and hydrocoolers. The required dosages will vary with process conditions and the degree of contamination present. Depending on the requirements of the specific water system, sodium chlorite should be applied continuously or intermittently through a chlorine dioxide generating system to achieve a chlorine dioxide residual concentration between 0.25 and 5.0 ppm.

Water, containing up to 3 ppm residual chlorine dioxide may be used for washing fruits and vegetables that are not raw agricultural commodities in accordance with 21CFR§173.300. Treatment of the fruits and vegetables with chlorine dioxide must be followed by a potable water rinse, or by blanching, cooking or canning.

**Wastewater Treatment**  
 Chlorine dioxide (ClO<sub>2</sub>) is effective as both a disinfectant and an oxidant in wastewater treatment. The required dosages will vary with water conditions and the degree of contamination present. For most municipal and other wastewater systems, a chlorine dioxide residual concentration of up to 5 ppm is sufficient to provide adequate disinfection.

For sulfide odor control, between pH 5-9, a minimum of 5.2 ppm (w/v) of chlorine dioxide should be applied to oxidize 1 ppm of sulfide (measured as sulfide ion). For phenol destruction, at pH less than 8, 1.5 ppm chlorine dioxide will oxidize 1 ppm phenol; at pH greater than 10, 3.3 ppm chlorine dioxide will oxidize 1 ppm phenol.

**Bacterial Slime Control in Paper Mills**  
 Chlorine dioxide generated from sodium chlorite is effective for use in controlling microbiological growth in white water paper mill systems. The required dosages will vary with the degree of microbiological and process contamination present. Depending on the specific requirements of the system, sodium chlorite should be applied continuously or intermittently through a chlorine dioxide generating system to achieve a chlorine dioxide residual concentration between 0.1 and 5.0 ppm. Intermittent treatments should be repeated as often as necessary to maintain control.

**Bacterial Control in Oil Wells And Petroleum Systems**  
 Chlorine dioxide is effective in the remediation of bacterial and sulfide contamination commonly found

in oilfield production, injection and disposal fluids. The required dosages will vary with process conditions. Sodium chlorite may be applied either continuously or intermittently through a chlorine dioxide generating system to oil well production water as it is separated from the oil, and before it is re-injected into the well.

For continuous feeds, chlorine dioxide may be applied at dosages slightly higher than sulfide's oxidative demand as determined by a demand study. For intermittent treatment, chlorine dioxide should be applied at a shock dosage of 200 - 3000 ppm.

**STORAGE AND DISPOSAL**

**STORAGE:** Do not contaminate water, food or feed by storage or disposal. Keep product in tightly closed container when not in use. Don't drop, roll or skid drum. Keep upright. Always replace cover. Store in a cool, dry well-ventilated area away from heat or open flame.

**EMERGENCY HANDLING:** In case of contamination or decomposition, do not resal container. If possible, isolate container in open and well ventilated area. Flood with large volumes of water. If fire occurs, extinguish fire by applying large quantities of water. Any unopened drums near the fire should be cooled by spraying with water.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL: Nonrefillable Container.** Do not reuse or refill this container. Offer for recycling if available. Offer for reconditioning if appropriate. Triple Rinse or Pressure Rinse container promptly after emptying.

**Triple Rinse as follows:** Empty remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and reclose. Tip container on its side and roll it 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.

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