Kimley»Horn

September 10, 2019

Mike Wilson
Utilities Inc. of Florida
200 Weathersfield Avenue
Altamonte Springs, FL 32714

Re: Summertree Water System – Chlorine Dioxide Pilot Program and Improvements
Pasco County, Florida

Dear Mr. Wilson:

Kimley-Horn and Associates, Inc. ("Kimley-Horn" or "Consultant") is pleased to submit this letter agreement (the "Agreement") to Utilities Inc. of Florida ("Client" of "UIF") for providing the design, permitting, and construction oversight services for the Summertree Water System Disinfection Improvements.

Project Understanding

UIF decommissioned the existing water treatment plants by interconnecting with Pasco County to provide potable water. As a result of these modifications, the Summertree Water Distribution System requires excess flushing to maintain chlorine residuals at the perimeter of the service area, wasting large volumes of potable water. The Florida Department of Environmental Protection (FDEP) requires by Rule, that disinfectant residuals are maintained above 0.6 mg/L. Based on discussions with the Utility, the chlorine residual at the point of connection (POC) has been inconsistent, creating concerns with meeting minimum residual at remote points in the system. The intent of this project is to provide chlorine dioxide as a secondary disinfectant to help maintain residuals throughout the Summertree system and reduce overall flushing.

UIF purchases water from Pasco County at a rate of $3.69 per 1,000 gallons. From January 2018 to January 2019, the estimated volume of potable water lost to flushing was 17,132,394 gallons, costing UIF approximately $63,218.00.

Scope of Services

Task 1 – Pilot Testing Design and Vendor Coordination

A. The Consultant will design improvements required to conduct a pilot test using chlorine dioxide as a secondary disinfectant at the POC to the Summertree Water Distribution System. The proposed improvements will be shown on an 11"x17" plan exhibit. The anticipated improvements include:
    - (1) 500-gallon mixing tank
    - Injection pumps and associated instrumentation and control panel
    - Residual analyzer
B. The assumptions for equipment sizing is included below:
    - Average Daily Demand: 80,000 GPD (Per 2016 Billing Data)
    - Maximum Daily Demand: 192,000 GPD (Per 2016 Billing Data)
    - Approximate Chlorine Dioxide Dosing Range: 0.3 ppm – 1.0 ppm
    - 500-Gal Mixing Tank Storage Retention Time:
        - 1.0 ppm dosing rate would provide storage for 2.5 days with 500-gal tank

- 0.3 ppm dosing rate would provide storage for 9 days with 500-gal tank

C. The Consultant will coordinate with the equipment and chemical providers prior to and during the pilot study. Consultant will coordinate the preliminary chlorine dioxide testing if necessary. It is anticipated that demand testing will be required prior to regulatory approval. The consultant will procure and coordinate the chlorine dioxide to be utilized for testing to confirm dosage and laboratory analysis.

Task 2 – FDEP Approval Request

A. The Consultant shall prepare and submit a request for approval to implement a pilot testing program for the use of chlorine dioxide as a secondary disinfectant at the POC to the Summertree Water Distribution System. The request for approval will include a pilot protocol, disinfection calculations, field and laboratory sampling plan, sampling logs to be used during the pilot testing, National Sanitation Foundation Certification documents for chemicals and equipment to be used, Material Safety Data Sheets, emergency safety procedures, reference to historical successes with chlorine dioxide, prior testing data, and a draft public notice for UIF to issue to all drinking water customers.

B. Following the preparation of the regulatory approval package, the Consultant will coordinate and attend one meeting with FDEP and UIF to review project approach and the anticipated results. This task includes response to (1) one round of comments issued by FDEP.

Task 3 – Testing Administration and Field Work

A. The pilot testing will occur over a 6-month period to verify treatment impacts to the distribution system. The Consultant will provide administrative services and engineering data review during this period. Anticipated administrative efforts include: monthly review of operating data collected, weekly support and troubleshooting calls for operations staff, laboratory sampling coordination for DBP and chlorite samples, coordination for DBP and chlorite testing, sample collection, and results review, and regulatory agency updates. All samples will be collected by UIF staff and delivered to laboratory for analysis.

Task 4 – Summary Technical Memorandum

A. A draft technical memorandum will be prepared and submitted to UIF for review. The technical memorandum will evaluate the following:
   - Observed DBP and disinfection results
   - Operational expense analysis for full scale implementation
   - Flushing reduction and estimated cost savings
   - Capital expenditures for permanent installation
   - Recommendations for future integration and regulatory requirements

B. Consultant will address up to one round of comments from UIF and will submit a final technical memorandum as the final deliverable.

Services Not Included

Any other services, including but not limited to the following, are not included in this Agreement:

- Survey
- Environmental

- Geotechnical
- Structural
- Public Involvement

Opinion of Probable Cost Disclaimer

Because the Consultant does not control the cost of labor, materials, equipment or services furnished by others, methods of determining prices, or competitive bidding or market conditions, any opinions rendered as to costs, including but not limited to opinions as to the costs of construction and materials, shall be made on the basis of its experience and represent its judgment as an experienced and qualified professional, familiar with the industry. The Consultant cannot and does not guarantee that proposals, bids or actual costs will not vary from its opinions of cost. If the Client wishes greater assurance as to the amount of any cost, it shall employ an independent cost estimator. Consultant's services required to bring costs within any limitation established by the Client will be paid for as Additional Services.

Information Provided By Client

We shall be entitled to rely on the completeness and accuracy of all information provided by the Client or the Client's consultants or representatives.

- Service Area information
- Record Drawings
- Water Quality Data

Responsibilities of Client

In addition to other responsibilities set out in this Agreement, the Client shall:

- Access to the Site
- Sample and provide water quality data

Fee and Expenses

Kimley-Horn will perform the services described in Task 1-4 for the total lump sum fee shown below. Individual task amounts are informational only. All permitting, application, and similar project fees will be paid directly by the Consultant.

Task 1	Pilot Testing Design and Vendor Coordination	$15,000.00
Task 2	FDEP Approval Request	$15,000.00
Task 3	Testing Administration and Field Work	$12,000.00
Task 4	Summary Technical Memorandum	$10,000.00
Total Lump Sum Fee		**$52,000.00**

Lump sum fees will be invoiced monthly based upon the overall percentage of services performed. Payment will be due within 25 days of your receipt of the invoice and should include the invoice number and Kimley-Horn project number.

Closure

In addition to the matters set forth herein, our Agreement shall include and be subject to, and only to, the attached Standard Provisions, which are incorporated by reference. As used in the Standard Provisions, "Consultant" shall refer to Kimley-Horn and Associates, Inc., and "Client" shall refer to Utilities Inc. of Florida.

Kimley-Horn, in an effort to expedite invoices and reduce paper waste, submits invoices via email in an Adobe PDF format. We can also provide a paper copy via regular mail if requested. Include the invoice number and Kimley-Horn project number with all payments. Please provide the following information:

_X_ Please email all invoices to mawilson@uiwater.com

____ Please copy _____

If you concur in all the foregoing and wish to direct us to proceed with the services, please have authorized persons execute both copies of this Agreement in the spaces provided below, retain one copy, and return the other to us. We will commence services after we have received a fully-executed agreement. Fees and times stated in this Agreement are valid for sixty (60) days after the date of this letter.

To ensure proper set up of your projects so that we can get started, please complete and return with the signed copy of this Agreement the attached Request for Information. Failure to supply this information could result in delay in starting work on your project.

We appreciate the opportunity to provide these services to you. Please contact me if you have any questions.

Very truly yours,

KIMLEY-HORN AND ASSOCIATES, INC.

By: Shelby N. Hughes, P.E.
Project Manager

W. Wade Wood III, P.E.
Associate

Utilities Inc. of Florida
A Corporation

By:

_____, President/Vice President

November 18, 2019
(Date)

Patrick C. Flynn, VP of Operations
(Print or Type Name)

patrick.flynn@uiwater.com
(Email Address)

QUOTE

Making Water Safer

DATE: AUGUST 31, 2020

2567 Crestwood Drive
Chattanooga, TN 37415
Phone 423-580-2627 Fax 615-250-6125
pcrowe@appliedoxidation.com

Summertree, Florida

Equipment required for chlorine dioxide pilot study as a secondary disinfectant.

1.	100 gallon HDPE Chlorine Dioxide powder mixing tank	$ 2,450.00
2.	15 gpm magnetic drive transfer pump	$ 1,175.00
3.	264 gallon HDPE double wall chlorine dioxide storage/run tank	$ 2,875.00
4.	0-400 ml/min FlexPro concentrated chlorine dioxide feed pump	$ 3,450.00
5.	HydroAct Chlorine Dioxide Analyzer Controller	$ 4,750.00
6.	PID+ Flow Pacing control and analog output for control signal	$ 1,450.00
7.	2 each Dual open flow cells for probes	$ 1,400.00
8.	Chlorine dioxide probe	$ 3,300.00
9.	Chlorite probe (0-2ppm)	$ 3,200.00
10.	ORP3 Probe	$ 1,800.00
11.	PH2 Probe	$ 1,100.00
12.	Install with associated piping, wiring and assembly parts	$ 3,000.00

$ 29,950.00

This includes delivery, basic installation and start up.

Add Palin Test Kemio:	$ 3,500.00
Add Chemicals for 90 Days	$ 4,200.00
Add 2 sets PPE	$ 240.00

$ 37,890.00

The plan is to base feed at 0.5 ppm of chlorine dioxide for 90 days at a flow of 80,000 gpd average. KH requested the Palin test for residual monitoring of chlorine dioxide and chlorite. Please note that the chlorine dioxide probe will not accurately maintain a chlorine dioxide residual when using a mixed oxidant system so we will base feed ClO2 to water flow.

From: Perez, Jorge
Sent: Wednesday, August 5, 2020 11:31 AM
To: Hughes, Shelby
Cc: Patrick Flynn; Ecker, Sarah; Dorris, Rhea; Hughes, Shelby; Loesch, Gerald; Soroka, Kira; Brock, James; Mike Wilson
Subject: RE: Summertree Water Distribution System - Chlorine Dioxide Pilot Study

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Good morning Mr. Hughes,

After reviewing the submittal of the above referenced PWS pilot program, the Department has no objection to the implementation of the 90 day pilot program. Please notify the Department the results of the pilot program once it has been completed.

Thank you

Jorge Perez, CESCO
Environmental Consultant
Permitting & Waste Cleanup Program
Florida Dept. of Environmental Protection, Southwest District
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926
(813) 470-5734
FAX (813) 470-5995
jorge.perez@floridadep.gov

From: Brock, James <James.Brock@FloridaDEP.gov>
Sent: Thursday, July 30, 2020 3:22 PM
To: Perez, Jorge <Jorge.Perez@FloridaDEP.gov>
Cc: Mike Wilson <Mike.Wilson@uiwater.com>; Patrick Flynn <Patrick.Flynn@uiwater.com>; Ecker, Sarah <Sarah.Ecker@kimley-horn.com>; Dorris, Rhea <Rhea.Dorris@kimley-horn.com>; Hughes, Shelby <Shelby.Hughes@kimley-horn.com>; Loesch, Gerald <Gerald.Loesch@FloridaDEP.gov>; Soroka, Kira <Kira.Soroka@FloridaDEP.gov>
Subject: FW: Summertree Water Distribution System - Chlorine Dioxide Pilot Study

Good afternoon Jorge,

Please find the attached Chlorine Dioxide Pilot Study request for the Summertree potable water system.

Regards,

James S. Brock
Environmental Manager
Phone: (813)470-5737
Fax: (813)470-5995

From: Hughes, Shelby <Shelby.Hughes@kimley-horn.com>
Sent: Thursday, July 30, 2020 3:07 PM
To: Brock, James <James.Brock@FloridaDEP.gov>
Cc: Mike Wilson <Mike.Wilson@uiwater.com>; Patrick Flynn <Patrick.Flynn@uiwater.com>; Ecker, Sarah <Sarah.Ecker@kimley-horn.com>; Dorris, Rhea <Rhea.Dorris@kimley-horn.com>
Subject: Summertree Water Distribution System - Chlorine Dioxide Pilot Study

Good Afternoon James,

I hope all is well!

Please accept this submittal requesting the review and approval of the Chlorine Dioxide Pilot Study for the Summertree Water Distribution System owned and operated by Utilities Inc. of Florida. The notification letter, pilot protocol, and all associated documentation is attached.

If you would like to set up a call to discuss further, or need any additional information, please let me know.

Thank you!

Shelby Hughes, P.E.
Kimley-Horn | 100 Second Avenue South, Suite 105N, St. Petersburg, FL. 33701
Direct: 727 498 2585 | Mobile: 772 360 5688 | Main: 727 547 3999

Kimley»Horn

July 30, 2020

James Brock
FDEP Southwest District
Drinking Water Compliance
13051 N Telecom Parkway, Suite 101
Temple Terrace, FL 33637
813-470-5737
James.Brock@FloridaDEP.gov

RE: Summertree Water Distribution System – Chlorine Dioxide Pilot Study Notification

Dear Mr. Brock,

Summertree Water Distribution System (Summertree) is owned and operated by Utilities Inc. of Florida (UIF) located in New Port Richey, FL. The existing Summertree System has approximately 11.5 miles of water main varying from 2-inch to 12-inch in diameter. The water main pipe material is variable, but generally consists of PVC, ductile iron, and HDPE. In December of 2016, UIF interconnected with Pasco County Utilities' (Pasco) distribution system and began purchasing potable water for delivery to UIF's Summertree customers. Thereafter, UIF decommissioned the existing wells and water treatment plant. As a result of this interconnection, the Summertree Water Distribution System requires flushing to maintain adequate chloramine residual at the perimeter of the service area. The Florida Department of Environmental Protection (FDEP) requires by Florida Administrative Code (F.A.C.) Rule 62-555, that chloramine residuals are maintained above 0.6 mg/L. Based on discussions with the UIF, the chloramine residual at the point of connection (POC) has been inconsistent, creating concerns with meeting minimum residual requirements at remote points in the system.

Chlorine dioxide has been identified as a potential solution as a strong oxidant to maintain a cleaner distribution system enabling a more stable chloramine residual and reduced flushing in water distribution systems. Having researched the recent examples and historical use of chlorine dioxide, UIF, in conjunction with Kimley-Horn and Associates Inc. (Kimley-Horn), have planned to execute a 90-day pilot testing project to demonstrate the disinfectant residual increase and return to regulatory compliance. It is anticipated that the chlorine dioxide disinfectant will raise disinfectant levels at the perimeter of the distribution system, reducing flushing. Please reference a similar pilot program completed in Lake County at the Lake Groves Water Treatment Plant owned and operated by UIF. The pilot program was successful and is now operating full scale in compliance with FDEP requirements.

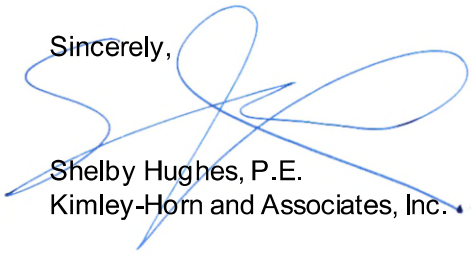
Summertree Water Distribution System intends to initiate the full-scale pilot test using a starting dose of 0.5 part per million dose of chlorine dioxide solution into the treated water at the POC.

The following documents are included as an attachment to this letter:

- 01 – Pilot Testing Protocol
- 02 – Equipment List
- 03 – Chemical NSF Certification
- 04 – Chemical Safety Data Sheets
- 05 – Emergency Safety Procedures
- 06 – Sampling Log Template
- 07 – Public Notification Letter

Please review the attached information and provide approval for the full-scale pilot operation to commence. Please contact me at (727) 498-2585 or Shelby.Hughes@kimley-horn.com should you have any questions or comments regarding this pilot approval letter or the supporting documents.

Sincerely,



Shelby Hughes, P.E.
Kimley-Horn and Associates, Inc.

CC:
Mike Wilson, Regional Manager, Utilities Inc. of Florida (Mike.Wilson@uiwater.com)
Patrick Flynn, Vice President, Utilities Inc. of Florida (Patrick.Flynn@uiwater.com)

Chlorine Dioxide Testing Pilot Protocol for Summertree Water Distribution System

DISINFECTANT RESIDUAL RETENTION TESTING

JULY 30, 2020

Prepared For:

Utilities, Inc. of Florida

Prepared By:

Kimley-Horn and Associates, Inc.

Contents

Figures

PILOT PROTOCOL

Summertree Water Distribution System (Summertree) is owned and operated by Utilities Inc. of Florida (UIF) located in New Port Richey, FL. The existing Summertree System has approximately 11.5 miles of water main varying from 2-inch to 12-inch in diameter. The water main pipe material is variable, but generally consists of PVC, ductile iron, and HDPE. In December of 2016, UIF interconnected with Pasco County Utilities' (Pasco) distribution system and began purchasing potable water for delivery to UIF's Summertree customers. Thereafter, UIF decommissioned the existing wells and water treatment plant.

As a result of this interconnection, the Summertree Water Distribution System requires flushing to maintain adequate chlorine residuals at the perimeter of the service area. The Florida Department of Environmental Protection (FDEP) requires by Florida Administrative Code (F.A.C.) Rule 62-555, that chloramine residuals are maintained above 0.6 mg/L. Based on discussions with the Utility, the chloramine residuals observed during this testing of Pasco's water at the point of connection (POC) have been inconsistent, contributing to the difficulty in meeting minimum chloramine residual at remote points in the system, requiring extensive flushing. This is mainly due to the long water age and the degradation of the chloramines within the distribution system. Flushing frequently can significantly reduce the water age but wastes large amounts of water.

Utilizing chlorine dioxide as an oxidant has been identified as a potential solution to help maintain disinfectant residuals throughout the Summertree System and reduce flushing. In the Summertree Water Distribution System Analysis Report completed by Kimley-Horn in 2017, pressure and constituent modeling, along with the analysis of various field and laboratory data to assess water quality throughout the distribution system led to the recommendation that UIF implement a chemical storage and injection system at the POC to maintain residuals throughout the system. The water quality analysis showed that nitrification, which is an ammonia-oxidation process performed by bacteria, is occurring within the Summertree System, based on the presence of nitrate and nitrite at the POC as well as throughout the Summertree distribution system. Similar to a 'chlorine burn' used to reduce nitrification and biological growth within the distribution system pipes, very low doses of chlorine dioxide can be used continuously or intermittently clean the pipelines. Biological growth within the pipelines contributes to the degradation of the disinfectant residual. Therefore, introducing chlorine dioxide to reduce or eliminate biological growth will serve to maintain the chloramine residual within the system for a longer period and consequently reduce or even eliminate the need to flush.

Based on the information gained from this study, other Utilities' successes in recent years, and a historical knowledge of chlorine dioxide use, UIF will commence with pilot testing chlorine dioxide use in the Summertree System. The goal of the pilot program is to test the ability to maintain the chloramine residual in the system by reducing the degradation rate through the addition of a low dose of chlorine dioxide. The testing protocol of the planned pilot is described in the following section.

PILOT SCHEDULE

UIF is preparing a 90-day pilot test utilizing chlorine dioxide as an oxidant amendment to the distribution system. The initial phase of the pilot program will be to inject low doses of chlorine dioxide until a small residual is obtained at the extents of the system. This provides the initial 'cleaning' dose. At the end of this

phase, the chloramine residual will be tracked at the Pasco County connection point and at a few points within the system to test for the chloramine degradation rate coincident with a minimal chlorine dioxide dose. Once this optimum is measured, it can be compared to the pre-chlorine dioxide chloramine residual degradation rate. This can then provide an effective range of operation to more efficiently use the chlorine dioxide by establishing operational protocols and testing points for either continuous or intermittent use.

Upon approval from FDEP, the pilot test will be initiated, and sample testing will commence for 90 days. The duration was selected to accommodate the Utility's desired timeline and allow for sufficient operation time to accurately sample the water quality throughout the distribution system. During the 90 days of pilot testing, the sampling analysis results identified in the sampling and monitoring plan will be available for review if desired. At the end of the 90-day pilot testing program, the data will be analyzed to confirm the anticipated maintenance of disinfection residuals throughout the distribution system is achieved on a consistent, repeatable basis. Provided the pilot yields favorable results, the Utility will consider engaging in full scale design, and permanent implementation of chlorine dioxide disinfection as a secondary disinfectant.

PHYSICAL COMPONENTS

The pilot program will include the physical components to mix, store and inject the powder-generated chlorine dioxide disinfectant into the distribution system. The physical equipment required to complete this pilot test include the components as follows:

- Product Mixing/Bulk Storage Tanks
    - 100 gallon HDPE chlorine dioxide powder mixing tank
    - 264 gallon HDPE double wall chlorine dioxide storage/run tank

- Injection Pumps and associated Instrumentation and Control Panels
    - 15 GPM magnetic drive transfer pump
    - 0-400 mL/min FlexPro concentrated chlorine dioxide feed pump
    - HydroAct Chlorine Dioxide Analyzer Controller
        - PID+ Flow Pacing control and analog output for control signal
        - Provides continuous monitoring of chlorine residuals in the source water pre-treatment
        - Provides continuous monitoring of chlorite and chlorine dioxide residuals at the POC post-treatment
    - Dual open flow cells
        - Chlorine dioxide probe
        - Chlorite probe (0-2ppm)
        - ORP3 Probe
        - PH2 Probe

- Sampling Stations – sampling taps located within the process to pull grab samples of the treated water throughout the distribution system

- Grab Sample Analyzer – one handheld analyzer (PalinTest Unit) for routine monitoring of chlorine dioxide residual and chlorite at each of the sampling locations identified

These physical components will be inspected once per day as the operations staff are completing their sampling efforts as well as during their routine operation and maintenance protocol.

PROCESS DESCRIPTION

The current concern for the Summertree Distribution System is the inconsistency of chloramine residuals from the Pasco County water by the time it reaches the POC and the high volume of flushing required to maintain residuals, particularly at the remote ends of the system. The planned pilot will inject chlorine dioxide at the POC where it can disperse throughout the extents of the distribution system.

The dosage of chlorine dioxide will be initiated at 0.5 part per million (ppm) at the POC of the Summertree System. Following injection, the chlorine dioxide residual will be monitored by the online analyzer and if necessary, using a handheld PalinTest analyzer. Handheld sample monitoring will be completed throughout the distribution system including sampling at the first customer, at the average distance from the injection point (mid-point), and the extents of the distribution system as indicated in the monitoring and sampling plan described herein and shown in **Figure 1**.

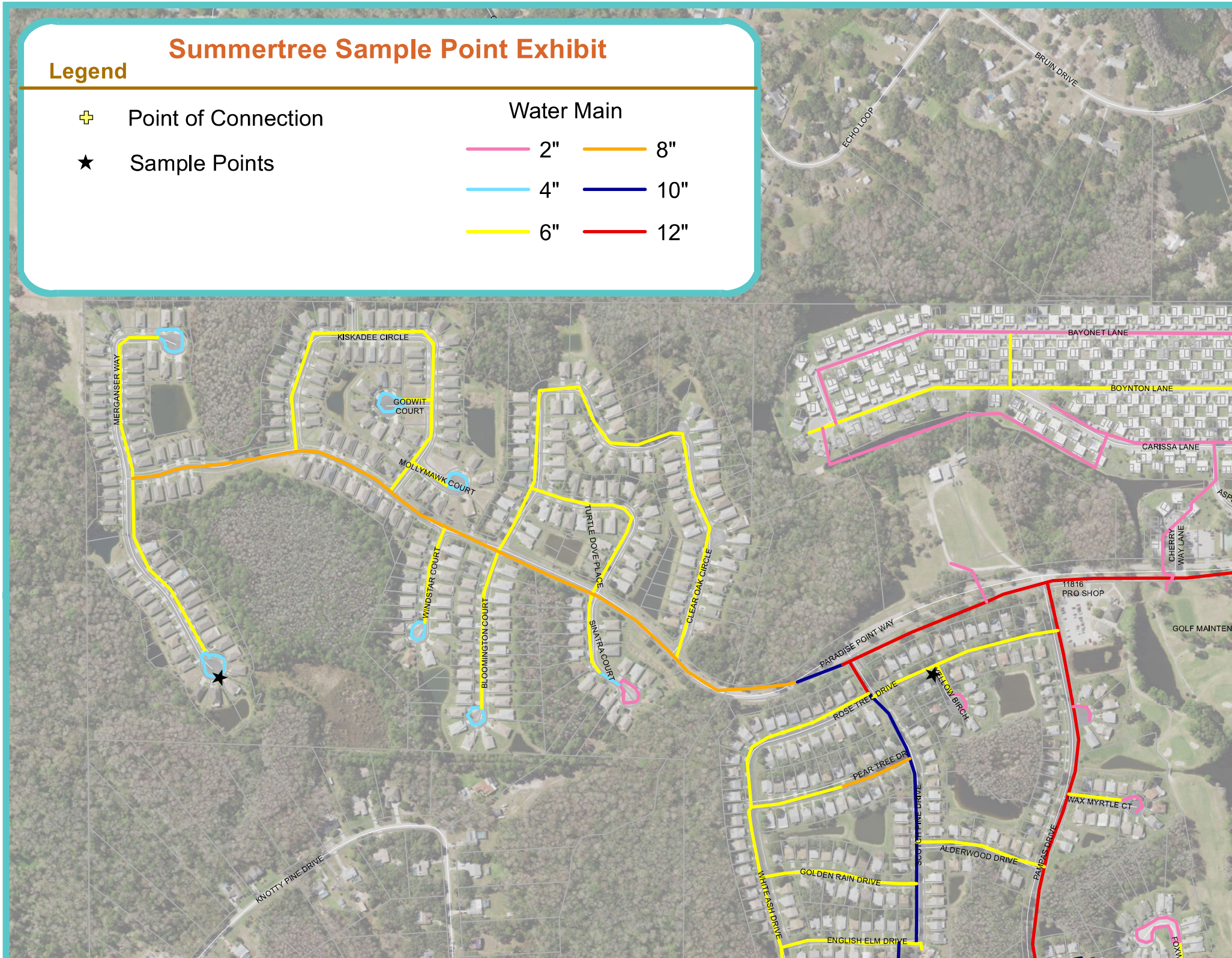
Summertree Sample Point Exhibit

Legend

- Point of Connection
- Sample Points

Water Main

- 2"
- 4"
- 6"
- 8"
- 10"
- 12"



PILOT STARTUP PROCEDURES:

While starting up the chemical system, the Utility will closely monitor both the free chlorine and chlorine dioxide residuals as the addition of chlorine dioxide extends through the distribution system. The initial chlorine dioxide chemical dosage will be 0.5 ppm based on preliminary demand testing completed on site. This dose is anticipated to be further adjusted throughout the duration of the pilot to achieve a steady minimum of 0.05 ppm chlorine dioxide residual at the end of the distribution system. If these residuals cannot be attained, the dose will be increased to attain the desired 0.05 ppm chlorine dioxide residual when sampled throughout the distribution system. Due to the time delay between the dose and the sampling points, the chlorine dioxide dose will be increased in 96-hour intervals or greater to ensure that the effective residual can be monitored prior to any increased dosage. The chlorine dioxide residual will be monitored throughout the distribution system to ensure that the chlorine dioxide residual has reached the extent of the distribution system. Once adequate residuals are maintained at the perimeter, the distribution system residuals will continue to be closely monitored to ensure that a stable chlorine dioxide disinfectant residual is found throughout the entirety of the system.

Once the dosage rate is identified and set to maintain the steady residual level at the extent of the system, the pump settings will be memorialized in the operational logs and records for the facility. While under operation, the operations staff will continue to sample the residual through the sampling stations identified to maintain a steady residual throughout the distribution system.

The operations staff will monitor continuously and record the chlorine dioxide levels once per day. The analyzer controller will monitor the influent chlorine residuals which will be used to confirm/regulate the feed rate of the chlorine dioxide thereby maintaining the desired residual level. The analyzer will also monitor the chlorine dioxide residuals at the POC following injection. In the event that the chlorine dioxide residual exceeds 0.6 ppm, the operations staff will shut down the chlorine dioxide dosing pump system until the residual returns to a lower level.

The Pilot Process Flow Diagram is shown in **Figure 2** below. Please note, a shade tarp or awning will be required to limit expose to ultraviolet (UV) radiation.

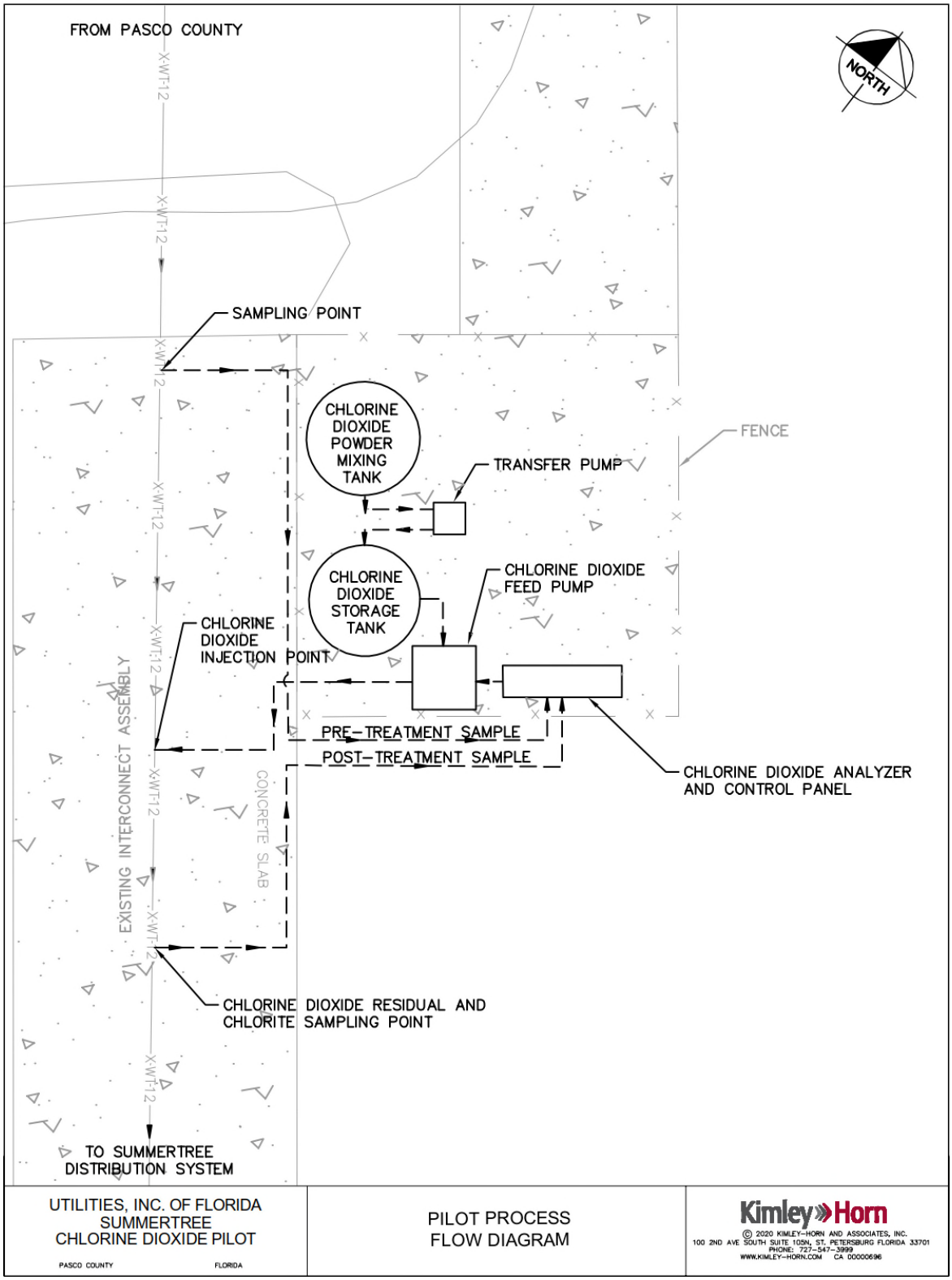


Figure 2. Pilot Process Flow Diagram

MONITORING AND SAMPLING PLAN

While the pilot operations are ongoing, it is imperative to monitor the performance as well as any concerning parameters throughout the distribution system. The following monitoring and sampling plan shall be sufficient to ensure that the performance can be quantified and the public health can be protected.

1. Chlorine dioxide shall be continuously monitored at the POC to the distribution system and at three locations within the distribution system using the handheld analyzer.
    a. Maximum residual disinfection level (MRDL) for chlorine dioxide at the POC = 0.8 mg/L. Any daily POC sample that exceeds 0.8 mg/L will evoke taking an additional three samples at three separate locations within the distribution system on the following day. If any daily sample taken at the POC exceeds 0.8 mg/L, and on the following day any of the three samples from the distribution system exceed 0.8 mg/L, the chlorine dioxide system shall be turned down and monitored hourly until the dosage can be re-established at the 0.2 ppm residual (at the POC) is achieved.
    b. Should the POC chlorine dioxide sample and any one of the following day's chlorine dioxide samples exceed the MRDL, the operators shall take immediate action to lower the level of chlorine dioxide and will notify the public and the Department of the acute violation in accordance with Rule 62-560.410.
2. Chlorite shall be continuously monitored at the POC to the distribution system and at three locations within the distribution system using the handheld analyzer.
    a. Chlorite samples collected must not exceed 1.0 mg/L. Any daily POC sample that exceeds the chlorite MCL of 1.0 mg/L will evoke taking an additional three samples at three separate locations within the distribution system on the following day. If any daily sample taken at the POC exceeds 1.0 mg/L chlorite MCL, and on the following day any of the three samples from the distribution system exceed 1.0 mg/L chlorite MCL, the chlorine dioxide system shall be turned down and monitored hourly until the dosage can be re-established at the 0.3 ppm residual (at the POC) is achieved.
    b. Should the POC chlorite sample and any one of the following day's chlorine dioxide samples exceed the MRDL, the operators shall take immediate action to lower the level of chlorine dioxide and will notify the public and the Department of the acute violation in accordance with Rule 62-560.410.
3. Sampling for chloramine residuals, free chlorine, shall be conducted during the pilot study: daily at the POC, at the first customer, at the mid-point, and at the extents of the system.
4. Weekly split samples shall be collected at the POC and analyzed by a certified laboratory for chlorine dioxide and chlorite for comparison / calibration of manual dosing pumps and handheld monitoring analyzers.

All normal drinking water compliance monitoring and sampling shall continue during the pilot study.

The pilot study will be for a period of 90 days. If additional time is needed, a time extension will be submitted to FDEP before the end of the 90-day period.

PRELIMINARY TESTING

Water Quality Testing

Based on the findings of the Utility's prior field investigation, water quality analysis, and hydraulic modeling assessments, many conclusions can be formed for the impending chlorine dioxide pilot testing. The sampling results and the water quality modeling identified that the chloramine residual is below the required residual concentration of 0.6 mg/L in many of the areas that are farther from the POC. The focus of this pilot testing will be to address both the lack of residual consistency and the inadequate levels at the extent of the system. It is anticipated that utilizing chlorine dioxide will be sufficient to obtain compliance levels of chlorine residuals within the distribution system rendering full compliance with FDEP regulations.

Preliminary Disinfectant Testing

Following the positive results of other municipal utilities of similar water qualities, the Utility anticipates an increase in the preservation of disinfectant residuals. It is expected that chlorine dioxide will react to oxidize the organics in the distribution system which will lower the chloramine demand, allowing for less chloramine consumed and a higher chloramine residual to be maintained at the extents of the system. In order to establish the dosage rates for this laboratory analysis, the demand testing for similar chlorine dioxide systems was reviewed and demand testing was completed for the Summertree System, resulting in selecting 0.5 ppm as the initial dose. This dose will be adjusted as necessary as steady residual is established throughout the system.

Anticipated Results

Based on a number of studies, chlorine dioxide has long been known to be a strong oxidant and is anticipated to be used intermittently for pipeline maintenance rather than continuously. However, this pilot program is necessary to establish the working boundaries and identify the operating parameters necessary to reliably maintain the system residual.

Chlorite data from previous studies has been closely analyzed to ensure compliance with MCLs. These studies indicated that proper analysis using the handheld PalinTest closely reflected the laboratory testing completed by the certified lab. As the chlorine dioxide pilot progresses, the chlorite formation sampling will be a critical function of the operations staff sampling plan. Similar to the recent studies, it is anticipated that chlorite levels will be maintained below the MCL of 1.0 ppm.

From this data research and experience at other public water supply facilities, we can conclude that the powder form of chlorine dioxide generation solution should effectively provide a stable and consistent supply of chlorine dioxide. As such, this process is further recommended for implementation at this facility on a pilot-scale basis as detailed.

Equipment List

for

Summertree Water Distribution System
Chlorine Dioxide Pilot Study

QUOTE

Making Water Safer

DATE: JUNE 5, 2020

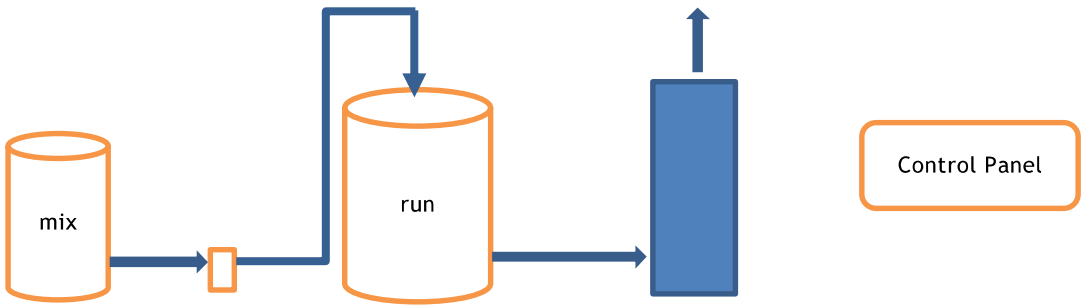
2567 Crestwood Drive
Chattanooga, TN 37415
Phone 423-580-2627 Fax 615-250-6125
pcrowe@appliedoxidation.com

Summertree, Florida

Equipment required for chlorine dioxide pilot study as a secondary disinfectant.

1.	100 gallon HDPE Chlorine Dioxide powder mixing tank	43" x 28"
2.	15 gpm magnetic drive transfer pump	12" x 12"
3.	264 gallon HDPE double wall chlorine dioxide storage/run tank	42" x 59"
4.	0-400 ml/min FlexPro concentrated chlorine dioxide feed pump	24" x 24" x 48"
5.	HydroAct Chlorine Dioxide Analayzer Controller	24" x 24" wallmount
6.	PID+ Flow Pacing control and analog output for control signal	in above
7.	2 each Dual open flow cells for probes	24" x 48" wallmount
8.	Chlorine dioxide probe	in above
9.	Chlorite probe (0-2ppm)	in above
10.	ORP3 Probe	in above
11.	PH2 Probe	in above
12.	Install with associated piping, wiring and assembly parts	varies

The basic footprint needs to be 48"x84" with 48" of wall space. A feedback loop from the feedline back to the control board for sample monitoring and control of the federate.



Chemical NSF Certification

for

Summertree Water Distribution System
Chlorine Dioxide Pilot Study

NSF/ANSI 60
Drinking Water Treatment Chemicals - Health Effects

Duka Production Ltd.
Box 175
Ferintosh, AB T0B 1M0
Canada
780-361-2114
http://www.dutrion.com/

Facility : # 2 Duka

Chlorine Dioxide Ingredients[CL]

Trade Designation	*Product Function*	*Max Use*
AQQUON	Bactericide Disinfection & Oxidation	30mg/L
AQUAPROVE	Bactericide Disinfection & Oxidation	30mg/L
DUTRION POWDER	Bactericide Disinfection & Oxidation	30mg/L
DUTRION TABLET	Bactericide Disinfection & Oxidation	30mg/L

[CL] The residual levels of chlorine (hypochlorite ion and hypochlorous acid), chlorine dioxide, chlorate ion, chloramine and disinfection by-products shall be monitored in the finished drinking water to ensure compliance to all applicable regulations.

Chemical Safety Data Sheets

for

Summertree Water Distribution System
Chlorine Dioxide Pilot Study

SAFETY DATA SHEET

Powder Component A

Section 1. Identification

GHS product identifier : Powder Component A

Other means of identification : Not available.

Product code : Not available.

Product type : Solid.

Identified uses : Not available.

Supplier/Manufacturer : Duka Production Ltd.
Box 175,
Ferintosh, AB
T0B 1M0
CANADA
Tel: 1(780)-361-2114
Fax: 1(780)-361-2115
info@dukaproduction.com

Supplier's details : Dutrion North America Ltd
Box 175,
Ferintosh, AB
T0B 1M0
CANADA
Tel: 1(780)361-2114
Fax:1(780)361-2115
info@dutrion.com

Emergency telephone number (with hours of operation) : CHEMTEL 24-HOUR EMERGENCY TELEPHONE NUMBER
N.A. Toll Free: 1-800-255-3924
International: 01-813-248-0585

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : OXIDIZING SOLIDS - Category 2
ACUTE TOXICITY (oral) - Category 4
ACUTE TOXICITY (dermal) - Category 2
SKIN CORROSION - Category 1B
SERIOUS EYE DAMAGE - Category 1
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (spleen) - Category 2
AQUATIC HAZARD (ACUTE) - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 2

GHS label elements

Section 2. Hazards identification

Hazard pictograms :

Signal word : Danger

Hazard statements :
H272 - May intensify fire; oxidizer.
H310 - Fatal in contact with skin.
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H373 - May cause damage to organs through prolonged or repeated exposure. (spleen)
H400 - Very toxic to aquatic life.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention :
P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
P210 - Keep away from heat. - No smoking.
P220 - Keep away from clothing, incompatible materials and combustible materials.
P221 - Take any precaution to avoid mixing with combustibles and other incompatible materials.
P273 - Avoid release to the environment.
P262 - Do not get in eyes, on skin, or on clothing.
P260 - Do not breathe dust.
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash hands thoroughly after handling.

Response :
P391 - Collect spillage.
P314 - Get medical attention if you feel unwell.
P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician.
P301 + P310 + P330 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 + P363 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician.
P302 + P361+P364 + P352 + P310 - IF ON SKIN: Take off immediately all contaminated clothing and wash it before reuse. Wash with plenty of soap and water. Immediately call a POISON CENTER or physician.
P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage : P405 - Store locked up.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified (HNOC)

Physical hazards not otherwise classified (PHNOC) : None known.

Health hazards not otherwise classified (HHNOC) : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.

Product code : Not available.

Ingredient name	%	CAS number
Sodium Chlorite	≥25 - ≤45	7758-19-2
Sodium Chlorate	≥25 - ≤40	7775-09-9
Sodium Carbonate	≤10	497-19-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Get medical attention immediately. Call a poison center or physician. Gently wash with plenty of soap and water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : No known significant effects or critical hazards.

Section 4. First aid measures

Skin contact : Causes severe burns. Fatal in contact with skin.

Ingestion : Harmful if swallowed.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No known significant effects or critical hazards.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Oxidizing material. May intensify fire. This material is very toxic to aquatic life. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters : Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

Spill : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from clothing, incompatible materials and combustible materials. Keep away from heat. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from reducing agents and combustible materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

United States

Occupational exposure limits

None.

Canada

Occupational exposure limits

None.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Solid. [Powder or granulates.]

Color : White.

Odor : Almost Odourless.

Odor threshold : Not available.

pH : 2 to 10 [100g/l]

Melting point : Not available.

Boiling point : Not available.

Flash point : Not applicable.

Evaporation rate : Not applicable.

Flammability (solid, gas) : Not applicable.

Lower and upper explosive (flammable) limits : Not applicable.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : Not available.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not applicable.

Decomposition temperature : Not available.

Viscosity : Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Hazardous reactions or instability may occur under certain conditions of storage or use.
Conditions may include the following:
contact with combustible materials
Reactions may include the following:
risk of causing or intensifying fire

Conditions to avoid : No specific data.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials, reducing materials, alkalis and moisture.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Sodium Chlorite	LD50 Oral	Rat	165 mg/kg	-
Sodium Chlorate	LD50 Oral	Rat	1200 mg/kg	-
Sodium Carbonate	LD50 Oral	Rat	4090 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Sodium Carbonate	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Severe irritant	Rabbit	-	50 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP	ACGIH	EPA	NIOSH
Sodium Chlorite	-	3	-	-	-	-

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Sodium Chlorite	Category 2	Oral	spleen

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes severe burns. Fatal in contact with skin.

Ingestion : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Section 11. Toxicological information

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No known significant effects or critical hazards.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	407.1 mg/kg
Dermal	138.9 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Sodium Chlorite	Acute EC50 1.32 ppm Fresh water	Algae - Pseudokirchneriella subcapitata	4 days
	Acute EC50 0.025 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 0.08 mg/L Fresh water	Fish - Ptychocheilus oregonensis - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
Sodium Chlorate	Acute EC50 298 mg/L Fresh water	Algae - Phaeodactylum tricornutum - Exponential growth phase	72 hours
	Acute EC50 919.3 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 3100000 µg/L Fresh water	Crustaceans - Asellus hilgendorfii	48 hours
	Acute LC50 1100000 µg/L Fresh water	Fish - Oncorhynchus masou - Fingerling	96 hours
	Chronic NOEC 50 mg/L Fresh water	Algae - Phaeodactylum tricornutum - Exponential growth phase	72 hours

Section 12. Ecological information

Sodium Carbonate	Chronic NOEC 526 ppm	Daphnia - Daphnia magna	21 days
	Acute EC50 242000 µg/L Freshwater	Algae - Navicula seminulum	96 hours
	Acute LC50 176000 µg/L Freshwater	Crustaceans - Amphipoda	48 hours
	Acute LC50 265000 µg/L Freshwater	Daphnia - Daphnia magna	48 hours
	Acute LC50 300000 µg/L Fresh water	Fish - Lepomis macrochirus	96 hours

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Sodium Chlorite	<-2.7	-	low
Sodium Chlorate	<-2.9	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT	TDG	IMDG	IATA
UN number	UN1479	UN1479	UN1479	UN1479
UN proper shipping name	OXIDIZING SOLID, N.O.S. (Sodium Chlorite, Sodium Chlorate)	OXIDIZING SOLID, N.O.S. (Sodium Chlorite, Sodium Chlorate). Marine pollutant (Sodium Chlorite, Sodium Chlorate)	OXIDIZING SOLID, N.O.S. (Sodium Chlorite, Sodium Chlorate). Marine pollutant (Sodium Chlorite, Sodium Chlorate)	OXIDIZING SOLID, N.O.S. (Sodium Chlorite, Sodium Chlorate)
Transport hazard class(es)	5.1 	5.1 	5.1 	5.1 
Packing group	II	II	II	II
Environmental hazards	No.	Yes.	Yes.	No.

Section 14. Transport information

Additional information	-	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.23-2.25 (Class 5), 2.7 (Marine pollutant mark). The marine pollutant mark is not required when transported by road or rail.	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules (EmS)** 5.1-06	The environmentally hazardous substance mark may appear if required by other transportation regulations.

AERG : 140

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Sodium Chlorite	≥60 - ≤90	Yes.	No.	No.	Yes.	Yes.
Sodium Chlorate	≥10 - ≤30	Yes.	No.	No.	Yes.	No.
Sodium Carbonate	≤10	No.	No.	No.	Yes.	No.

SARA 313

No products were found.

Section 15. Regulatory information

State regulations

Massachusetts : The following components are listed: Sodium Chlorite; Sodium Chlorate

New York : None of the components are listed.

New Jersey : The following components are listed: Sodium Chlorite; Sodium Chlorate

Pennsylvania : The following components are listed: Sodium Chlorite; Sodium Chlorate

California Prop. 65

No products were found.

Canada

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

Canada inventory : All components are listed or exempted.

Section 16. Other information

History

Date of issue mm/dd/yyyy : 02/15/2016

Date of previous issue : 12/15/2015

Version : 3

Prepared by : KMK Regulatory Services Inc.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

Powder Component B

Section 1. Identification

GHS product identifier : Powder Component B

Other means of identification : Not available.

Product code : Not available.

Product type : Solid.

Identified uses : Not available.

Manufacturer : Duka Production Ltd.
Box 175,
Ferintosh, AB
T0B 1M0
CANADA
Tel: 1(780)-361-2114
Fax: 1(780)-361-2115
info@dukaproduction.com

Supplier's details : Dutrion North America Ltd
Box 175,
Ferintosh, AB
T0B 1M0
CANADA
Tel: 1(780)361-2114
Fax:1(780)361-2115
info@dutrion.com

Emergency telephone number (with hours of operation) : CHEMTEL 24-HOUR EMERGENCY TELEPHONE NUMBER
N.A. Toll Free: 1-800-255-3924
International: 01-813-248-0585

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SERIOUS EYE DAMAGE - Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H318 - Causes serious eye damage.

Precautionary statements

Prevention : P280 - Wear eye or face protection.

Section 2. Hazards identification

Response : P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified (HNOC)

Physical hazards not otherwise classified (PHNOC) : None known.

Health hazards not otherwise classified (HHNOC) : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.

Product code : Not available.

Ingredient name	%	CAS number
Sodium Hydrogensulphate	≥50 - ≤75	7681-38-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No known significant effects or critical hazards.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Section 5. Fire-fighting measures

Specific hazards arising from the chemical : No specific fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
nitrogen oxides
sulfur oxides

Special protective actions for fire-fighters : No special measures are required.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

United States

Occupational exposure limits

None.

Canada

Occupational exposure limits

None.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state : Solid. [Crystals.]

Color : White./ Yellowish.

Odor : Odorless.

Odor threshold : Not available.

pH : 2 [30 g/l]

Melting point : Not available.

Boiling point : Not available.

Flash point : Not applicable.

Evaporation rate : Not applicable.

Flammability (solid, gas) : Not applicable.

Lower and upper explosive (flammable) limits : Not applicable.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : Not available.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not applicable.

Decomposition temperature : Not available.

Viscosity : Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials and combustible materials.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

There is no data available.

Irritation/Corrosion

There is no data available.

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No known significant effects or critical hazards.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Section 11. Toxicological information

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

There is no data available.

Section 12. Ecological information

Toxicity

There is no data available.

Persistence and degradability

There is no data available.

Bioaccumulative potential

There is no data available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT	TDG	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

AERG : Not applicable.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard

Composition/information on ingredients

Section 15. Regulatory information

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Sodium Hydrogensulphate	≥60 - ≤90	No.	No.	No.	Yes.	No.

SARA 313

No products were found.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : None of the components are listed.

Pennsylvania : None of the components are listed.

California Prop. 65

No products were found.

Canada

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

Canada inventory : All components are listed or exempted.

Section 16. Other information

History

Date of issue mm/dd/yyyy : 02/15/2016

Date of previous issue : 12/15/2015

Version : 3

Prepared by : KMK Regulatory Services Inc.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Emergency Safety Procedures

for

Summertree Water Distribution System
Chlorine Dioxide Pilot Study

AppliedOxidation

Emergency Information And Procedures

Applied Oxidation LLC produces chlorine dioxide concentrate by several methods to disinfect water and hard surfaces. The primary method of production is using a 2 part dry powder mix to make a 0.2 to 0.4% (2000ppm to 4000ppm). Part A is a sodium chlorite powder and Part B is an organic acid. When combined in water, a concentrated solution is made that is applied at the recommended dosage level depending on results desired.

Please refer to all SDS and Product Use Guides when preparing a concentrated solution of chlorine dioxide. The concentrated solution is very strong and requires a respirator, eye protection and gloves should also be worn to protect skin.

In the particular case of Summer Tree, we will make a 100 gallon solution of 3000ppm (0.3%) chlorine dioxide using Part A and Part B. Once approximately 50 gallons of water is in the 100 gallon tank, Part A is added. The additional water stirs and dissolves the powder. As the solution gets to 80 gallons, Part B is added and filled to 100 gallons to dissolve all powders. This concentrate is then aged for 1-4 hours and transferred to the larger 300 gallon day run tank. This concentrate is fed to the system via the concentrated chlorine dioxide feed pump that is controlled by the flow rate and residual analyzer to meet the desired residual.

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USA

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I: www.appliedoxidation.com

SAFETY DATA SHEET

Chlorine Dioxide (0.2%, 0.3%, 0.4%)

Section 1. Identification

GHS product identifier : Chlorine Dioxide (0.2%, 0.3%, 0.4%)

Other means of identification : Not available.

Product code : Not available.

Product type : Liquid.

Identified uses : Not available.

Manufacturer : Duka Production Ltd.
Box 175,
Ferintosh, AB
T0B 1M0
CANADA
Tel: 1(780)-361-2114
Fax: 1(780)-361-2115
info@dukaproduction.com

Supplier's details : Dutrion North America Ltd
Box 175,
Ferintosh, AB
T0B 1M0
CANADA
Tel: 1(780)361-2114
Fax:1(780)361-2115
info@dutrion.com

Emergency telephone number (with hours of operation) : CHEMTEL 24-HOUR EMERGENCY TELEPHONE NUMBER
N.A. Toll Free: 1-800-255-3924
International: 01-813-248-0585

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : OXIDIZING LIQUIDS - Category 2
SKIN IRRITATION - Category 2
SERIOUS EYE DAMAGE - Category 1
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (spleen) - Category 2
AQUATIC HAZARD (ACUTE) - Category 2

GHS label elements

Hazard pictograms :

Signal word : Danger

Section 2. Hazards identification

Hazard statements : H272 - May intensify fire; oxidizer.
H318 - Causes serious eye damage.
H315 - Causes skin irritation.
H373 - May cause damage to organs through prolonged or repeated exposure. (spleen)
H401 - Toxic to aquatic life.

Precautionary statements

Prevention : P280 - Wear protective gloves. Wear eye or face protection.
P210 - Keep away from heat. - No smoking.
P220 - Keep away from clothing, incompatible materials and combustible materials.
P221 - Take any precaution to avoid mixing with combustibles and other incompatible materials.
P273 - Avoid release to the environment.
P260 - Do not breathe vapor.
P264 - Wash hands thoroughly after handling.

Response : P314 - Get medical attention if you feel unwell.
P302 + P352 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
P332 + P313 - If skin irritation occurs: Get medical attention.
P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified (HNOC)

Physical hazards not otherwise classified (PHNOC) : None known.

Health hazards not otherwise classified (HHNOC) : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.

Product code : Not available.

Ingredient name	%	CAS number
Chlorine dioxide	≤1	10049-04-4
Sodium Chlorite	≤1	7758-19-2
Sodium Hydrogensulphate	≤3	7681-38-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Get medical attention immediately. Call a poison center or physician. Rinse immediately contaminated clothing and skin with plenty of water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes skin irritation.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No known significant effects or critical hazards.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

Section 4. First aid measures

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Oxidizing material. May intensify fire. This material is toxic to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
nitrogen oxides
sulfur oxides
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters : Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Section 6. Accidental release measures

Spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Do not absorb in sawdust or other combustible material. It may lead to a fire risk when it dries out. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from clothing, incompatible materials and combustible materials. Keep away from heat. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from reducing agents and combustible materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

United States

Occupational exposure limits

Ingredient name	Exposure limits
Chlorine dioxide	**ACGIH TLV (United States, 3/2015).** TWA: 0.1 ppm 8 hours. TWA: 0.28 mg/m³ 8 hours. STEL: 0.3 ppm 15 minutes. STEL: 0.83 mg/m³ 15 minutes. **NIOSH REL (United States, 10/2013).** TWA: 0.1 ppm 10 hours. TWA: 0.3 mg/m³ 10 hours. STEL: 0.3 ppm 15 minutes. STEL: 0.9 mg/m³ 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 0.1 ppm 8 hours. TWA: 0.3 mg/m³ 8 hours.

Canada

Section 8. Exposure controls/personal protection

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m³	Other	ppm	mg/m³	Other	ppm	mg/m³	Other	Notations
Chlorine dioxide	US ACGIH 3/2015	0.1	0.28	-	0.3	0.83	-	-	-	-	
	AB 4/2009	0.1	0.3	-	0.3	0.8	-	-	-	-	
	BC 5/2015	0.1	-	-	0.3	-	-	-	-	-	
	ON 7/2015	0.1	0.28	-	0.3	0.83	-	-	-	-	
	QC 1/2014	0.1	0.28	-	0.3	0.83	-	-	-	-	
	SK	-	-	0.1 PPM	-	-	0.3 PPM	-	-	-	

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state	:	Liquid.
Color	:	Yellowish.
Odor	:	Chlorine. [Strong]
Odor threshold	:	Not available.
pH	:	1.8 to 2.3
Melting point	:	Not available.
Boiling point	:	Not available.
Flash point	:	Not available.
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Flammable in the presence of the following materials or conditions: heat and combustible materials.
Lower and upper explosive (flammable) limits	:	Not available.
Vapor pressure	:	Not available.
Vapor density	:	Not available.
Relative density	:	Not available.
Solubility in water	:	Not available.
Partition coefficient: n-octanol/water	:	Not available.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
Viscosity	:	Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Hazardous reactions or instability may occur under certain conditions of storage or use.
Conditions may include the following:
contact with combustible materials
Reactions may include the following:
risk of causing or intensifying fire

Conditions to avoid : Drying on clothing or other combustible materials may cause fire.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials, reducing materials, metals and alkalis.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Chlorine dioxide Sodium Chlorite	LD50 Oral LD50 Oral	Rat Rat	140 mg/kg 165 mg/kg	- -

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Chlorine dioxide	Eyes - Mild irritant	Rabbit	-	100 mg	-

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP	ACGIH	EPA	NIOSH
Sodium Chlorite	-	3	-	-	-	-

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Chlorine dioxide	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Sodium Chlorite	Category 2	Oral	spleen

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes skin irritation.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Section 11. Toxicological information

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No known significant effects or critical hazards.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral Dermal	7725.2 mg/kg 5100 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Chlorine dioxide	Acute EC50 1.8 ppm Fresh water Acute LC50 500000 µg/L Marine water Acute LC50 2.2 mg/L Fresh water Chronic NOEC 0.1 ppm Fresh water	Daphnia - Daphnia pulex - Adult Crustaceans - Carcinus maenas - Adult Fish - Oncorhynchus mykiss - Larvae Fish - Cyprinus carpio - Young	48 hours 48 hours 96 hours 30 days
Sodium Chlorite	Acute EC50 1.32 ppm Fresh water Acute EC50 0.025 ppm Fresh water Acute LC50 0.08 mg/L Fresh water	Algae - Pseudokirchneriella subcapitata Daphnia - Daphnia magna Fish - Ptychocheilus oregonensis - Juvenile (Fledgling, Hatchling, Weanling)	4 days 48 hours 96 hours

Section 12. Ecological information

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Sodium Chlorite	<-2.7	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT	TDG	IMDG	IATA
UN number	UN1908	UN1908	UN1908	UN1908
UN proper shipping name	CHLORITE SOLUTION (Sodium Chlorite)	CHLORITE SOLUTION (Sodium Chlorite)	CHLORITE SOLUTION (Sodium Chlorite)	CHLORITE SOLUTION (Sodium Chlorite)
Transport hazard class(es)	5.1 	5.1 	5.1 	5.1 
Packing group	II	II	II	II
Environmental hazards	No.	No.	No.	No.
Additional information	-	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.23-2.25 (Class 5).	-	-

AERG : 154

Section 14. Transport information

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Chlorine dioxide	≤1	No.	No.	No.	Yes.	No.
Sodium Chlorite	≤1	Yes.	No.	No.	Yes.	Yes.
Sodium Hydrogensulphate	≤3	No.	No.	No.	Yes.	No.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Chlorine dioxide	10049-04-4	≤1
Supplier notification	Chlorine dioxide	10049-04-4	≤1

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: Chlorine dioxide; Sodium Chlorite

New York : The following components are listed: Chlorine dioxide

Section 15. Regulatory information

New Jersey : The following components are listed: Chlorine dioxide; Sodium Chlorite

Pennsylvania : The following components are listed: Chlorine dioxide; Sodium Chlorite

California Prop. 65

No products were found.

Canada

Canadian lists

Canadian NPRI : The following components are listed: Chlorine dioxide

CEPA Toxic substances : None of the components are listed.

Canada inventory : All components are listed or exempted.

Section 16. Other information

History

Date of issue mm/dd/yyyy : 02/15/2016

Date of previous issue : 05/01/2010

Version : 2

Prepared by : KMK Regulatory Services Inc.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Sampling Log Template

for

Summertree Water Distribution System
Chlorine Dioxide Pilot Study

Summertree Pilot Sampling Log					POC				First Customer		Average Retention Time		Last Customer		
Pilot Day	Date	Time	Flow Rate	Chlorine Dioxide Tank Level	ClO_2 Residual Analyzer	Chlorite Analyzer	ClO_2 Residual Palintest	Chlorite Palinest	ClO_2 Residual (Distribution System Sample 1)	Chlorite (Distribution System Sample 1)	ClO_2 Residual (Distribution System Sample 2)	Chlorite (Distribution System Sample 2)	ClO_2 Residual (Distribution System Sample 3)	Chlorite (Distribution System Sample 3)	(Co Lo
Day 1															
Day 2															
Day 3															
Day 4															
Day 5															
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Public Notification Letter

for

Summertree Water Distribution System
Chlorine Dioxide Pilot Study

CUSTOMERS OF UTILITIES, INC. of FLORIDA
Summertree Water System

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

NOTIFICATION OF USE OF CHLORINE DIOXIDE AS OXIDANT

Utilities, Inc. of Florida is actively working with the Florida Department of Environmental Protection ("FDEP") towards improvements to your water supply. We will be implementing a 90-day pilot testing program as permitted through FDEP to use chlorine dioxide as an oxidant to improve the retention of disinfection residuals through the extents of the water distribution system.

This temporary change in the disinfection system is not due to any bacteriological contamination problems. You do not need to boil your water before using it and the water is perfectly safe to drink. The water we deliver to you will continue to meet federal and state standards for potable water.

Customers on dialysis are advised to contact their physician to obtain the appropriate steps needed to accommodate the supplemented water treatment with chlorine dioxide. Customers who have fish tanks or aquatic species are advised to contact their pet store or aquarium dealer to avoid any problems associated with chlorine dioxide.

The chlorine dioxide treatment equipment will be placed in service no sooner than 7 days from the distribution date of this notice. Following the installation, you will not likely notice any difference in the water, yet it will continue to be safe and meet the drinking water requirements of the FDEP. The chlorine dioxide treatment system will be monitored daily per federal and state drinking water regulations.

We apologize for any inconvenience this may cause you and appreciate your patience. If you should have any questions or concerns, please contact our Customer Service Department at (866) 842-8432.

Patrick C. Flynn,
Vice President of Operations