

REQUEST FOR BIDS

CHLORINE GAS

Water Division

CITY OF RAPID CITY RAPID
CITY, SOUTH DAKOTA

**March 13, 2012
2:00 P.M.**

SAM KOOIKER
MAYOR

COUNCIL MEMBERS

Gary Brown
Steve Laurenti
Dave Davis
Jordan Mason
Bonny Petersen

Charity Doyle
Ritchie Nordstrom
Jerry Wright
John Roberts
Ron Sasso

TERRY WOLTERSTORFF
DIRECTOR OF PUBLIC WORKS

JOHN WAGNER
WATER DIVISION SUPERINTENDENT

**NOTICE FOR BIDS
FOR PURCHASE OF
CHLORINE GAS
Water Division
Rapid City, South Dakota**

Notice is hereby given that sealed bids will be received by the Common Council for the City of Rapid City, South Dakota until 2:00 P.M., March 13, 2012, at the Rapid City Finance Office, 300 Sixth Street, Rapid City, South Dakota 57701, and will be publicly opened and read for CHLORINE GAS to be used by the Rapid City Water Division. All proposals shall be made on the forms furnished by the City.

Specifications may be obtained at the Public Works Administration Office, 300 Sixth Street, Rapid City, South Dakota 57701.

PAULINE SUMPTION
City Finance Officer

**SPECIFICATIONS FOR
CHLORINE GAS
Rapid City, South Dakota**

Bids will be received at the Rapid City Finance Office, 300 Sixth Street, Rapid City, South Dakota on March 13, 2012, until 2:00 P.M. for furnishing CHLORINE GAS which shall meet the following specifications:

SCOPE

It is the intent of these specifications to describe CHLORINE GAS in sufficient detail to secure bids on comparable CHLORINE GAS. All parts not specifically mentioned, which are necessary in order to provide CHLORINE GAS shall be included in the bid and shall conform in strength, quality of material and workmanship to what is usually provided the trade in general.

The City's intent is to obtain a reasonable bid from all interested bidders. If for any reason bidders are unable to meet or equal the following specifications, the City will receive for consideration minor deviations of specifications. Deviations and variations of specifications must be fully detailed and explained by the bidder on the form provided and stapled to the BIDDER'S PROPOSAL.

All bids must be accompanied by literature completely describing the CHLORINE GAS to be furnished. Each bidder must be a certified dealer authorized by the manufacturer he represents. Each bid shall contain a dealer and/or factory warranty as a guarantee of the product to be furnished. The guarantee shall be stated in the descriptive literature or by a letter.

GENERAL CONDITIONS

1) *Bidders Information*

Each bid envelope shall contain **ONLY ONE** (1) Bid Proposal and shall be marked with the words "**Sealed Bid – CHLORINE GAS**".

Each bid must be accompanied by a certified check, cashier's check or a bank draft for One Hundred Dollars (\$100), such check to be certified or issued by either a State or National Bank and payable to the City of Rapid City, South Dakota, or in lieu thereof, a Two Hundred Dollar (\$200) bid bond, such bond to be issued by a surety authorized to do business in this State, payable to the City of Rapid City, Rapid City, South Dakota, as a guarantee of the bidder entering into a contract, for the supplying of CHLORINE GAS for the City of Rapid City. After this has been accomplished, the bidder's check or bid bond will be returned; the checks or bonds of all the unsuccessful bidders will be returned within thirty (30) days after the bids have been opened.

Bids submitted by mail, express courier, or common carrier cannot be accepted unless received in the City Finance Office prior to the time for the scheduled bid opening. Bids submitted by telefax cannot be accepted.

Each bid envelope shall contain the entire set of specifications. To save time for both the bidder and the City, the bidder shall fill out and complete "ARTICLE 5 CONTRACT DOCUMENT" upon submittal of the bid.

To the extent provided by statute, preference will be given to materials, products, and supplies found or produced within the State of South Dakota. (SDCL Chapter 5-19; Residential Preference Statute.)

The City reserves the right to reject all bids and unless all bids presented are rejected, the lowest responsible bid, in all cases, will be accepted. In case the low bid is not responsible or the bid is not made in accordance with the requirements of SDCL Chapter 5-19 or the low bid is withdrawn, the bid of the next lowest responsible bidder may be accepted; however, to the extent allowed by law the City reserves the right to accept the bid that is to the advantage of and is in the best interest of the City of Rapid City.

Payment for the CHLORINE GAS will be made BY CHECK, within a reasonable time after receipt and approval of the CHLORINE GAS, receipt of a City claim, and approval by the Common Council.

The unit price of the bid must be stated on the Bidder's Proposal form, along with the extended price bid. Unit price shall take precedence over extended price; written figures shall take precedence over numerical figures.

The CHLORINE GAS shall be delivered F.O.B., Water Division, 1111 Mt. View Road, and various other sites Rapid City, South Dakota.

The quantities shown in the proposal are approximate for 2012. It shall be understood that the City of Rapid City reserves the right to purchase more or less than the specified amounts as it deems expedient.

Bids and quotations shall be for the period starting March 20, 2012, and ending approximately one (1) year later and shall show net delivered prices without State or Federal taxes. The City of Rapid City prefers to receive firm bids from all bidders and will give first consideration to said quotations. If bidder is unable to quote a firm price, the City will receive, for consideration, fluctuating bids based on bidder's costs plus a profit margin or percentage. Fluctuating quotes must be fully detailed and explained by letter and stapled to the bid documents. The City reserves the right to reject any bid not stating a firm price as not responsive.

All prices shall be F.O.B., Rapid City South Dakota to Water Division, and other various sites.

2) Rejection

If the material does not meet the requirements of these specifications, notice shall be given to the vendor within THIRTY (30) days after the receipt of the CHLORINE GAS. In this event, payment shall be withheld, and the vendor shall remove the product from the City premises and shall replace it with a like amount of acceptable CHLORINE GAS.

3) Contract Extension

The City of Rapid City annually reserves the option of extending the 2012 contract through the calendar years of 2013, 2014 and 2015. The extension option may be exercised if agreed to by both parties.

Bid Award Based on Total Extended Price.

**DETAILED SPECIFICATIONS
CHLORINE GAS
(150 lb cylinders)**

Chlorine shall be 99.5 percent pure by volume as obtained from vaporized chlorine gas and shall be of a quality suitable for disinfection.

The 150 pound containers of chlorine gas shall be delivered to the Water Division source sites within 48 hours after notice. Notice will be made by telephone. The quantity of chlorine gas available shall be that amount to operate the water sources without interruption.

The price quoted must include all charges for delivery of a return of the containers. There are to be no additional charges for demurrage or expenses connected with the use of the chlorine and containers.

Shipping containers for chlorine gas shall conform to applicable regulations of the Interstate Commerce Commission. The containers shall be reconditioned, maintained, and loaded in strict accordance with the latest edition of "Container Procedure at Chlorine Packaging Plant", issued by the Chlorine Institute, Inc.

The chlorine gas furnished under the specifications is to be of the quality generally furnished for domestic water treatment and shall comply with the latest AWWA (B301-59) standard.

Each bid shall be accompanied by an affidavit from the vendor that the chlorine gas to be furnished, comply with all requirements of these specifications.

All containers will be carefully examined upon receipt and any which show evidence of leakage, damage, or corrosion shall be rejected. Frozen or stuck valves shall also be cause for rejection of containers.

**DETAILED SPECIFICATIONS
CHLORINE GAS
(One Ton cylinders)**

Chlorine shall be 99.5 percent pure by volume as obtained from vaporized chlorine gas and shall be of a quality suitable for disinfecting, and shall comply with the latest AWWA (B301-59) standard.

The one ton containers of chlorine gas shall be delivered to the Rapid City Water Treatment Plant, Jackson Springs Gallery, within 48 hours after notice. Notice will be made by telephone. The delivery shall be made in such a manner that normal plant operations will not be interrupted.

The Water Treatment Plant has a capacity of two containers and will order one container per order.

The Water Treatment Plant uses chlorine gas primarily from May to September. The price quoted must include all charges for delivery of and return of the container. There are to be no additional charges for demurrage or expenses connected with the use of the chlorine and containers.

Shipping containers for chlorine gas shall conform to applicable regulations of the Interstate Commerce Commission. The containers shall be reconditioned, maintained, and loaded in strict accordance with the latest edition of "Container Procedure at Chlorine Packaging Plant", issued by the Chlorine Institute, Inc. The one ton containers shall be of the approved type suitable for taking off either gas or chlorine gas.

Each bid shall be accompanied by an affidavit from the vendor that the chlorine gas to be furnished complies with all requirements of these specifications.

All containers will be carefully examined upon receipt and any which show evidence of leakage, damage or corrosion shall be rejected. Frozen or stuck valves shall also be cause for rejection of containers.

The one ton cylinders must be delivered in a truck with an open top bed or the bed must have a lift gate for unloading the cylinders.

BIDDER'S PROPOSAL

NAME OF BIDDER: Hawkins, Inc.

ADDRESS: 11810 Sturgis Rd., Black Hawk, SD 57718

PHONE NO.: (605) 787-6881 FAX NO.: (605) 787-6882

Bidder proposes and agrees to and with the City of Rapid City, South Dakota ("City") to furnish CHLORINE GAS at the following price, to-wit:

ITEM NO.	DESCRIPTION	Approx Quantity	UNIT PRICE (Numerical)	EXTENDED PRICE (Numerical)
1.	CHLORINE GAS, 150 lb Cylinders	160 Cylinders	\$111.00 per cyl.	\$17,760.00
Seventeen thousand-seven hundred sixty dollars <i>(EXTENDED PRICE WRITTEN IN WORDS)</i>				
2.	CHLORINE GAS One Ton Cylinders	7 Cylinders	\$1020.00 per cyl.	\$7,140.00
Seven thousand-one hundred forty dollars <i>(EXTENDED PRICE WRITTEN IN WORDS)</i>				
Twenty four thousand-nine hundred dollars <i>TOTAL EXTENDED PRICE WRITTEN IN WORDS</i>				<u>\$ 24,900.00</u> <i>Total Extended Price</i>

The within proposal and agreement are based upon the conditions, stipulations, and specifications named in the notice inviting bids for said CHORINE GAS, which notice and detailed specifications are made a part of this contract as if written herein at length. The CHLORINE GAS shall be delivered F.O.B., Rapid City Rapid City Recreation Division swimming pools, and the Water Division, Rapid City, South Dakota, 57701, within 1 calendar days (to be filled in by Bidder) after date of awarding contract.

The Bidder further agrees and states that he has read the notice calling for bids and has studied the detailed specifications and that he is familiar with the terms and conditions stipulated therein and agrees to enter into attached Contract and acknowledges receipt of the following Addenda:

Addenda No. 1

Dated 3/6/12

Hawkins, Inc.

 NAME OF COMPANY – BIDDER

11810 Sturgis Rd.,

 ADDRESS

Al Hansen

 AUTHORIZED SIGNATURE

Black Hawk, SD 57718

 CITY, STATE, ZIP

Al Hansen-Branch Manager

 PRINT NAME & TITLE

3/13/12

 DATE

**CONTRACT SUPPLIES AND
EQUIPMENT BETWEEN
SUPPLIER AND CITY OF RAPID CITY**

THIS AGREEMENT, made the 19 day of March, 2012, by and between Hawkins Inc. hereinafter "Supplier," and the City of Rapid City, South Dakota, hereinafter "City," WITNESSETH:

That the Supplier and the City, for the consideration named, agree as follows:

ARTICLE 1. SCOPE OF WORK

The Supplier shall furnish all of the materials, labor and perform all of the work as described in the specifications for Supplies and Equipment entitled CHLORINE GAS prepared by the Public Works Department, Rapid City, South Dakota, and shall do everything required by this Contract, General Conditions, Special Conditions, and Detailed Specifications, which are hereby made a part of this Contract, including the following Addenda.

Addendum No.	Dated
<u>1</u>	<u>3/6/12</u>

ARTICLE 2. TIME OF COMPLETION

The furnishing or ordering of materials, supplies, and equipment under this Contract shall be commenced as soon as possible within the time stated in the specifications unless the specifications expressly provide for a one time delivery, it is agreed that the City may place orders under this Contract at any time or times within the Contract period. Failure to meet the terms of the Contract on or before the completion date may result in forfeiture of the Performance Bond or deposit, if any; and shall be deemed a breach of this Contract. Request for time extensions shall be made in writing to the Water Division at least fourteen (14) days before the Contract completion date. All time extensions will be issued by the City through the Public Works Department.

ARTICLE 3. THE CONTRACT SUM

The City shall pay the Supplier for the performance of the Contract, subject to additions and deductions provided therein, in current funds as follows:

twenty four thousand nine hundred Dollars (\$ 24,900.00)

ARTICLE 4. ACCEPTANCE AND FINAL PAYMENT

Upon delivery of any items under this Contract, the Individual or Department specified in Article 2 for making time extensions, shall satisfy himself by examination that the furnishing of supplies and equipment has been finally and fully completed in accordance

with the Specifications and Contract, and shall make up the appropriate purchase order. The Supplier must complete and return a proper City voucher and payment will be made on said voucher as soon as possible after approval by the Common Council.

ARTICLE 5. THE CONTRACT DOCUMENTS

The Notice for Bids, General Conditions, Special Conditions, Addendum, Specifications, and the Bidder's Proposal together with this Agreement, form the Contract, and all are as fully a part of the Contract as if herein set forth at length.

The Supplier further agrees and states that he has read the advertisement calling for bids and has studied the detailed specifications and that he is familiar with the terms and conditions stipulated therein.

IN WITNESS WHEREOF: The City of Rapid, South Dakota, its Council having duly approved this Contract, has caused this Contract to be executed in its behalf by its Mayor, hereunto duly authorized, attested thereto by its Finance Officer, and has hereto attached its corporate seal this 19 day of April, 2012.

If you have any concerns regarding the provision of services or employment on the basis of disability/handicap you may contact our ADA/Section 504 coordinator, ADA Coordinator, Mayor's Office, 300 6th Street, Rapid City, South Dakota 57701. 605-394-4110.

CITY OF RAPID CITY, SOUTH DAKOTA

ATTEST:

Pauline Sumption
Pauline Sumption
City Finance Officer

by *Sam Kooiker*
SAM KOOIKER, MAYOR

Date 3-19-12

(SEAL)

Hawkins, Inc
NAME OF COMPANY

by *Al Hansen*
AUTHORIZED SIGNATURE

Al Hansen-Branch Manager 3/13/12
Print Name & Title Date

11810 Sturgis RD., Black Hawk, SD 57718
Address

Material Safety Data Sheet

Chlorine (Liquid or Gas)

24 Hour Emergency Phone: CHEMTREC 1-800-424-9300

Date of Preparation: 11/26/01

Revision: 4/28/03

Section 1 - Chemical Product and Company Identification

CAS No: 7782-50-5
Molecular Weight: 70.91
Chemical Formula: Cl₂
Distributed by:
Hawkins, Inc. 3100 E. Hennepin Avenue Minneapolis, MN 55413 (612-331-6910)

Section 2 - Composition / Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Chlorine	7782-50-5	99.5 - 100%	Yes

Section 3 - Hazards Identification

Emergency Overview

STRONG OXIDIZING AGENT. POISON. HAZARDOUS LIQUID AND GAS UNDER PRESSURE. MAY CAUSE CHEMICAL PNEUMONIA AND EVEN DEATH IN HIGH CONCENTRATIONS. MAY CAUSE SEVERE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT. LIQUID MAY BURN EYES AND SKIN. CAN REACT EXPLOSIVELY WITH ORGANIC PRODUCTS.

Potential Health Effects

Inhalation:

Severe irritant. Coughing, burning, chest pain, vomiting, headache, anxiety and feeling of suffocation. Severe exposure may cause pneumonitis and pulmonary edema.

Ingestion:

Chlorine is a gas at room temperature. Ingested liquid chlorine can cause severe burns of the mouth, esophagus and stomach. Nausea and vomiting are likely to occur.

Skin Contact:

Corrosive! Contact with skin can cause irritation or severe burns and scarring with greater exposures.

Eye Contact:

Corrosive! Severe irritant. High concentrations or contact can cause burns.

Chronic Exposure:

Above established exposure limits may result in reduced breathing capacity.

Aggravation of Pre-existing Conditions:

Persons with pre-existing impaired respiratory function may be more susceptible to the effects of the substance.

Section 4 - First Aid Measures

Inhalation:

Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician, immediately. Wash clothing before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Note to Physician:

Monitor closely for delayed onset of pulmonary edema and chemical pneumonia. Provide treatment as is medically indicated.

Section 5 - Fire-Fighting Measures

NFPA Ratings:

Health: 4 Flammability: 0 Reactivity: 0 Other: OX

Fire: Not considered to be a fire hazard, but does support combustion.

Explosion: Reacts explosively or forms explosive compounds, with many chemicals, such as acetylene, turpentine, ether, ammonia gas, hydrogen and finely divided metals.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire. Approach fire from upwind. If no chlorine escaping, apply water spray to keep fire-exposed containers cool. DO NOT APPLY WATER TO LEAKING CONTAINERS. Remove chlorine containers from fire zone if possible. Flame impingement on steel chlorine container will result in iron/chlorine fire causing rupture of the container.

Special Information:

Firefighters should wear self-contained, positive-pressure breathing apparatus, and a one piece, total-encapsulating suit of Butyl coated nylon or equivalent.

Section 6 - Accidental Release Measures

Evacuate unnecessary personnel. Keep unnecessary and unprotected people upwind from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Contain and recover liquid when possible. Do not flush residues to the sewer. Residues from spills can be absorbed into an alkaline solution such as caustic soda. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

Section 7 - Handling and Storage

Keep in a tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities. Protect from heat.. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Do not store with aluminum or magnesium. Do not mix with acids or organic materials.

Section 8 - Exposure Controls / Personal Protection

Airborne Exposure Limits:

Chlorine:

-OSHA Permissible Exposure Limit (PEL): 1 ppm Ceiling

-ACGIH Threshold Limit Value (TLV): 0.5 ppm (8 hr TWA), 1 ppm STEL

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded, a half-face dust/mist respirator may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece dust/mist respirator may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Section 9 - Physical and Chemical Properties

Appearance:

Greenish-yellow gas, amber liquid

Boiling Point:

-34C (-29.3F)

Odor:

Pungent odor

Melting Point:

-101C (-150F)

Solubility:

Slight.

Vapor Density (Air=1):

2.5

Density:

11.7 lbs/gal @15.6C

Vapor Pressure (mm Hg):

71 psig @ 60F.

% Volatiles by weight: 100%.

Section 10 - Stability and Reactivity

Stability: Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products: No hazardous decomposition products.

Hazardous Polymerization: Will not occur.

Incompatibilities:

Dry chlorine is highly reactive with titanium and tin. Reacts with most metals at high temperatures. Reacts with water to produce hydrochloric acids, which are corrosive to most metals.

Ammonia, elemental metals, certain metal hydrides, carbides, nitrides, oxides, phosphides and sulfides, easily oxidized materials, organic materials (e.g. oil grease) and unstable and reactive compounds.

Conditions to Avoid: Heat, moisture, incompatibles.

Section 11- Toxicological Information

Chlorine: IDLH = 10 ppm

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Chlorine (7782-50-5)	No	No	None

Section 12 - Ecological Information

Environmental Fate:

Water: Chlorine is a strong oxidizer and will react rapidly with inorganic compounds. Chlorine will also oxidize organic compounds, but at a slower rate than inorganic compounds. The presence of light accelerates the dissipation of chlorine in water.

Environmental Toxicity:

Acute LC50 (96 hours) for Fathead Minnow: 0.07 - 0.15 ppm.

Acute LC50 (96 hours) for Bluegill: 0.44 mg/l

Section 13 - Disposal Considerations

Chlorine gas will disperse to the atmosphere leaving no residue. Chlorine may be neutralized by introducing it into caustic soda, soda ash, or hydrated lime. Liquid and/or solid residues from neutralization must be disposed of in a permitted waste management facility.

Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14 - Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: CHLORINE

Hazard Class: 2.3, 8

UN/NA: UN1017

Packing Group:

RQ, Poison Inhalation Hazard, Zone B, Marine Pollutant.

Section 15 - Regulatory Information

```

-----\Chemical Inventory Status - Part 1\-----
Ingredient                                     TSCA  EC   Japan  Australia
-----
Chlorine (7782-50-5)                          Yes  Yes   Yes    Yes
  
```

```

-----\Chemical Inventory Status - Part 2\-----
Ingredient                                     --Canada--
Korea  DSL  NDSL  Phil.
-----
Chlorine (7782-50-5)                          Yes  Yes   No     Yes
  
```

```

-----\Federal, State & International Regulations - Part 1\-----
Ingredient                                     -SARA 302-  -SARA 313-
RQ      TPQ      List  Chemical Catg.
-----
Chlorine (7782-50-5)                          10      100    Yes    No
  
```

```

-----\Federal, State & International Regulations - Part 2\-----
Ingredient                                     -RCRA-      -TSCA-
CERCLA  261.33  8(d)
-----
Chlorine (7782-50-5)                          10          No     No
  
```

```

Chemical Weapons Convention: No      TSCA 12(b): No      CDTA: No
SARA 311/312: Acute: Yes  Chronic: No      Fire: Yes      Pressure: Yes
Reactivity: No          (Pure / Liquid)
  
```

Section 16 - Other Information

Prepared By: Chris W. Gibson
 Revision Notes: Updated Section 14
 Disclaimer:

Please be advised that it is your responsibility to inform your employees of the hazards of this substance, to advise them of what these properties mean and be sure they understand exposure information.

The information presented herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge. No warranty or guaranty, express or implied, is made regarding performance, stability, or otherwise. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, and storage. Other factors may require additional safety or performance considerations. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, the handling and use remains the responsibility of the customer. No suggestions are intended as, and should not be construed as, a recommendation to infringe on any existing patents or to violate any Federal, State, or local laws.



ERCO Worldwide

**Port Edwards, Wisconsin
SALES SPECIFICATIONS**

**Chlorine
Cl₂**

Liquid

<u>Component</u>	<u>Specifications</u>
Chlorine, vol.%	99.5 min.
Water, ppm	50 max.
Nonvolatile residue, ppm	30 max.
Carbon Tetrachloride, ppm	25 max.
Trihalomethanes, ppm	25 max.

NSF Listed ANSI/ NSF Standard 60 from Port Edwards, WI
Meets requirements of ASTM (American Society for Testing and Materials)
specification E 1120 for Liquid Chlorine
Meets requirements of ANSI/ AWWA B301-04
K-Star Kosher Certified
Product utilizes membrane technology

3/1/2010
PE 1228