

CITY OF AURORA, ILLINOIS
INVITATION TO BID 16-44

CHEMICALS FOR THE CITY OF AURORA
WATER TREATMENT FACILITY

BID PROPOSAL FORM

Bid Due Date & Time: 2:00 p.m. CST, Wednesday, October 19, 2016

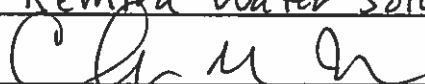
To: **City of Aurora**
City Clerk's Office
44 E Downer Place
Aurora, Illinois 60507

The following offer is hereby made to the City of Aurora, Aurora, Illinois, hereafter called the Owner.

Submitted By: Kemira Water Solutions, Inc.

- I. The undersigned Vendor proposes and agrees, after having examined the specifications, quantities and other Bid documents, to irrevocably offer to furnish the materials, equipment and services in compliance with all terms, conditions, specifications and amendments (if applicable) contained in the bid solicitation documents. The items in this Invitation to Bid, including, but not limited to, all required certificates, are fully incorporated herein as a material and necessary part of the Bid.
 - A. The Vendor shall also include with their bid any necessary literature, samples, etc., as required within the Invitation to Bid, Instruction to Bidders and specifications.
 - B. For purposes of this offer, the terms Offeror, Bidder, Contractor, and Vendor are used interchangeably.
- II. In submitting this Offer, the Vendor acknowledges:
 - A. All bid documents have been examined: Instructions to Bidder, Specifications and the following addenda:

No. 1, No. _____, No. _____. (Vendor to acknowledge addenda here.)
 - B. To be prepared to execute a contract with the City within ten (10) calendar days after approval by Aurora City Council.

Company Name: Kemira Water Solutions, Inc.
Signature & Date:  10/14/16

**CITY OF AURORA
INVITATION TO BID 16-44
CHEMICALS FOR THE CITY OF AURORA
WATER TREATMENT FACILITY**

BID PROPOSAL FORM

Bidders may bid on any or all of the items. **The Agreement term will be for a one-year period with a 2nd year extension option**, subject to mutual administrative consent between the City of Aurora and the Bidder. Year 1 will be the period of January 1, 2017 through December 31, 2017. Year 2 will be the period of January 1, 2018 through December 31, 2018. Bidders shall familiarize themselves with the General Conditions, Special Conditions and the delivery destination.

All bids must be submitted on this bid form. The quantities listed are approximate:

YEAR 1:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL AMOUNT
1. Anhydrous Ammonia	40,000	Lbs.	—	NO BID
2. Liquid Ferric Chloride	1,100,000	Lbs.	<u>0.079</u> <i>per pound solution</i>	<u>86,900.00</u>
3. Carbon Dioxide	1,400,000	Lbs.	—	NO BID
4. Sodium Hypochlorite	280,000	Gals.	—	NO BID
5. Calcium Oxide	5,400	Tons	—	NO BID

YEAR 2:

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL AMOUNT
1. Anhydrous Ammonia	40,000	Lbs.	—	NO BID
2. Liquid Ferric Chloride	1,100,000	Lbs.	<u>0.079</u> <i>per pound solution</i>	<u>86,900.00</u>
3. Carbon Dioxide	1,400,000	Lbs.	—	NO BID
4. Sodium Hypochlorite	280,000	Gals.	—	NO BID
5. Calcium Oxide	5,400	Tons	—	NO BID

Your Company's Name Kemira Water Solutions, Inc.

CITY OF AURORA
16-44
CHEMICALS FOR THE CITY OF AURORA
WATER TREATMENT PLANT
BID PROPOSAL FORM

The Bidder shall furnish the chemicals, F.O.B. Aurora Water Treatment Plant, 1111 Aurora Avenue, Aurora, Illinois with freight allowed to destination.

The undersigned Bidder proposes to furnish all labor, materials, equipment and services to satisfactorily perform the above referenced contract.

If there is a discrepancy between the unit price and the total, the unit price will prevail. Designate below the telephone number and contact person who is to be notified for shipment request:

Telephone # (800) 879-6353
Contact Person Brittany Jarvis

The bid price for material shall include shipping and shall remain firm for the duration of this contract year unless otherwise stated below. The City of Aurora reserves the right to limit quantities to meet the needs of the City.


No additional charges over total net bid price will be accepted without written approval of the Purchasing Director.

All bid prices shall be shown as delivered Aurora Destination, Prepaid and Allowed.

Do not add state, federal or local taxes. Municipalities are exempt. Exemption Certification Permit No. Illinois E9996-0842-07.

The City of Aurora reserves the right to reject any or all Bids, or parts thereof, and to waive any technicality, informality or irregularity in the Bids received, and to disregard all nonconforming or conditional Bids or counter-proposals and to hold the best Bids for ninety (90) days from the opening date set forth above. The City further reserves the right to award the Bid to the lowest responsible Bidder whose offer best responds in quality, fitness and capacity to the requirements of the proposed work or usage and therefore is in the best interest of the City.

BID SUBMITTED BY:

COMPANY Kemira Water Solutions, Inc.
ADDRESS 4321 W. 6th Street
CITY, STATE, ZIP Lawrence, KS 66049
PREPARER'S NAME Christina Imbrogno
Please Type
CONTRACT PERSON Christina Imbrogno
Please Type
AUTHORIZED SIGNATURE  Customer Service Manager
Title
PHONE # (800) 879-6353 FAX # (785) 842-2629 DATE 10/14/16
EMAIL: Kwsna.bids@Kemira.com

CITY OF AURORA, ILLINOIS
INVITATION TO BID 16-44

CHEMICALS FOR THE CITY OF AURORA
WATER TREATMENT PLANT

CONTACT INFORMATION

Vendor shall provide the following contact information assigned to service the City of Aurora account.

Customer Service/General Information: Ph: (800)879-6353

To place an order:

Name: Customer Service
Ph: (800)879-6353 Fax: (785)842-2629
E-mail: Kwsna.orders@Kemira.com

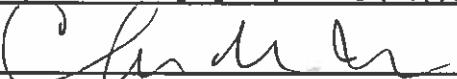
Billing & Invoicing question:

Name: Tina Imbrogno
Ph: (800)879-6353 Fax: (785)842-2629
E-mail: Kwsna.bids@Kemira.com

Questions:

Name: Tina Imbrogno
Ph: (800)879-6353 Fax: (785)842-2629
E-mail: Kwsna.bids@Kemira.com

Bidder's Name: Kemira Water Solutions, Inc.

Signature & Date:  10/14/16

CITY OF AURORA, ILLINOIS
INVITATION TO BID 16-44

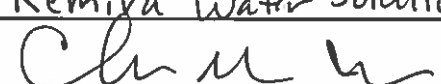
CHEMICALS FOR THE CITY OF AURORA
WATER TREATMENT PLANT

REFERENCES

(Please Type)
Organization Reud Lake Conservancy District
Address 11228-11231 Marum
City, State, Zip Benton, IL 62812
Phone Number (618) 439-4394 x224
Contact Person Tony Furlow
Date of Project 2011- Current

Organization Des Moines Water Works
Address Flour and McMullen Maffit Plants
City, State, Zip Des Moines, IA 50321
Phone Number (515) 283-8724
Contact Person Julia Johnston
Date of Project 2005- Current

Organization ^{ow} Racine Racine Water Utility
Address 2101 S. Wisconsin Avenue
City, State, Zip Racine, WI 53403
Phone Number (262) 636-9550
Contact Person Sherri Ruud
Date of Project 2012- Current

Bidder's Name: Kemira Water Solutions, Inc.
Signature & Date:  10/14/14

BIDDER'S CERTIFICATION

I/We hereby certify that:

- A. A complete set of bid papers, as intended, has been received, and that I/We will abide by the contents and/or information received and/or contained herein.
- B. I/We have not entered into any collusion or other unethical practices with any person, firm, or employee of the City which would in any way be construed as unethical business practice.
- C. I/We have adopted a written sexual harassment policy which is in accordance with the requirements of Federal, State and local laws, regulations and policies and further certify that I/We are also in compliance with all other equal employment requirements contained in Public Act 87-1257 (effective July 1, 1993) 775 ILCS 5/2-105 (A).
- D. I/We operate a drug free environment and drugs are not allowed in the workplace or satellite locations as well as City of Aurora sites in accordance with the Drug Free Workplace Act of January, 1992.
- E. The Bidder is not barred from bidding on the Project, or entering into this contract as a result of a violation of either Section 33E-3 or 33E-4 of the Illinois Criminal Code, or any similar offense of "bid rigging" or "bid rotating" of any state or the United States.
- F. I/We will abide by all other Federal, State and local codes, rules, regulations, ordinances and statutes.

COMPANY NAME Kemira Water Solutions, Inc.

ADDRESS 4321 W. 6th Street

CITY/STATE/ZIP CODE Lawrence, KS 66049

NAME OF CORPORATE/COMPANY OFFICIAL Christina M Imbrogno
PLEASE TYPE OR PRINT CLEARLY

TITLE Customer Service Manager

AUTHORIZED OFFICIAL SIGNATURE *Christina M Imbrogno*

DATE October 14, 2016

TELEPHONE (800) 879-6353

FAX No. (785) 842-2629

Subscribed and Sworn to
Before me this 14 day
of October, 2016

Marcia Diane Moore
Notary Public



Kansas
STATE OF ILLINOIS)
County of ~~Kane~~ ^{Douglas}) ss.

BIDDER'S TAX CERTIFICATION

(BIDDER'S EXECUTING OFFICER), being first duly sworn on oath, deposes and states that all statements made herein are made on behalf of the BIDDER, that this despondent is authorized to make them and that the statements contained herein are true and correct.

Bidder deposes, states and certifies that Bidder is not barred from contracting with any unit of local government in the State of Illinois as result of a delinquency in payment of any tax administered by the Illinois Department of Revenue unless Bidder is contesting, in accordance with the procedures established by the appropriate statute, its liability for the tax or the amount of the tax, all as provided for in accordance with 65 ILCS 5/11-42.1-1.

DATED this 14 day of October, 2016.

By 
(Signature of Bidder's Executing Officer)

Christina M. Inbrogno
(Print name of Bidder's Executing Officer)

Customer Service Manager
(Title)

ATTEST/WITNESS:

By _____

Title _____

Subscribed and sworn to before me this
14 day of October, 2016.


Notary Public

(SEAL)



CITY OF AURORA, ILLINOIS
INVITATION TO BID 16-44

**CHEMICALS FOR THE CITY OF AURORA
WATER TREATMENT PLANT**

BID SUBMITTAL CHECKLIST

Each Bid Must Be Placed In An Envelope, Sealed, And Clearly Marked On The Outside: “16-44 CHEMICALS FOR THE CITY OF AURORA WATER TREATMENT PLANT.” In order to be considered responsive, the bidder must submit all of the following items in their sealed envelope:

1. Bidder's Certifications (Page 01)
2. Bidder's Tax Certification (Page 02)
3. Bid Proposal Form (Appendix E)
4. Contact Information (Appendix C)
5. Reference List (Appendix D)
6. Contract (Appendix G)
7. Vendor Application (Appendix H)

APPENDIX G

CONTRACT

**CITY OF AURORA AGREEMENT FOR
CHEMICALS FOR THE CITY OF AURORA WATER TREATMENT PLANT
INVITATION TO BID 16-44**

THIS AGREEMENT, entered on this _____ day of _____, 2016 (“Effective Date”), for the Chemicals for the City of Aurora Water Treatment Plant (“Services”) is entered into between the **CITY OF AURORA** (“City”), a municipal corporation, located at 44 E. Downer Place, Aurora, Illinois and (“Bidder”), located at _____.

WHEREAS, the City issued an Invitation to Bid (“Bid”) on September 28, 2016 for the Chemicals for the City of Aurora Water Treatment Plant located at 1111 Aurora Avenue, Aurora, IL; and

WHEREAS, the Bidder submitted a Bid Proposal in response to the Bid and represents that it is ready, willing and able to perform the Services specified in the Bid and herein as well as any additional services agreed to and described in the Agreement; and

WHEREAS, on _____, the City awarded a contract to Bidder.

IN CONSIDERATION of the mutual promises and covenants herein contained, the parties hereto do mutually agree to the following:

1. **Agreement Documents.** The Agreement shall be deemed to include this document, Bidder’s response to the Bid, to the extent it is consistent with the terms of the Bid, any other documents as agreed upon by the parties throughout the term of this Agreement, along with any exhibits, all of which are incorporated herein and made a part of this Agreement. In the event of a conflict between this Agreement and any exhibit, the provisions of this Agreement shall control.

Invitation to Bid 16-44

In connection with the Bid and this Agreement, Bidder acknowledges that it has furnished and will continue to furnish various certifications, affidavits and other information and reports, which are incorporated herein. Bidder represents that such material and information furnished in connection with the Bid and this Agreement is truthful and correct. Bidder shall promptly update such material and information to be complete and accurate, as needed, to reflect changes or events occurring after the Effective Date of this Agreement.

2. **Scope of Services.** Bidder shall perform the Services listed in the Instructions to Bidders and Special Conditions, attached hereto as Exhibit 1.

3. **Term.** Year 1 of the contract period will be from January 1, 2017 through December 31, 2017. Year 2 of the contract period will be from January 1, 2018 through December 31, 2018.

4. **Compensation.**

a. **Maximum Price.** In accordance with the Bidder's Bid, the maximum price for providing the Services shall be:

<u>Item</u>	<u>Unit Price</u>	<u>Contract Period</u>
_____	_____	January 1 through December 31, 2017
_____	_____	January 1 through December 31, 2018

Price shall remain firm for the entire contract period.

b. **Schedule of Payment.** The City shall pay the Bidder for the Services in accordance with the amounts set forth in Exhibit 2. The Bidder shall be required to submit an itemized invoice as well as any supporting documentation as required by the City. Payment shall be made upon the basis of the approved invoices and supporting documents. The City shall utilize its best efforts to make payment within forty-five (45) days after approval of the invoice. Each invoice shall be accompanied by a statement of the Bidder of the percentage of completion of the Services through the date of the invoice.

5. **Performance of Services.**

Standard of Performance. Bidder shall perform all Services set forth in this Agreement, and any other agreed documents incorporated herein, with the degree, skill, care and diligence customarily required of a professional performing services of comparable scope, purpose and magnitude and in conformance with the applicable professional standards. Bidder shall, at all times, use its best efforts to assure timely and satisfactory rendering and completion of the Services. Bidder shall ensure that Bidder and all of its employees or subcontractors performing Services under this Agreement shall be: (i) qualified and competent in the applicable discipline or industry; (ii) appropriate licensed as required by law; (iii) strictly comply with all City of Aurora, State of Illinois, and applicable federal laws or regulations; (iv) strictly conform to the terms of this Agreement. Bidder shall, at all times until the completion of the Services, remain solely responsible for the professional and technical accuracy of all Services and deliverables furnished, whether such services are rendered by the Bidder or others on its behalf, including, without limitation, its subcontractors. No review, approval, acceptance, nor payment for any and all of the Services by the City shall relieve the Bidder from the responsibilities set forth herein.

6. **Termination.**

Termination for Convenience. The City has the right to terminate this Agreement, in whole or in part, for any reason or if sufficient funds have not been appropriated to cover the estimated requirement of the Services not yet performed, by providing Bidder with thirty (30) days notice specifying the termination date. On the date specified, this Agreement will end. If this Agreement is terminated by the City, as provided herein, the City shall pay the Bidder only for services performed up to the date of termination. After the termination date, Bidder has no further contractual claim against the City based upon this Agreement and any payment so made to the Bidder upon termination shall be in full satisfaction for Services rendered. Bidder shall deliver to the City all finished and unfinished documents, studies and reports and shall become the property of the City.

7. **Miscellaneous Provisions.**

a. **Illinois Freedom of Information Act.** The Bidder acknowledges the requirements of the Illinois Freedom of Information Act (FOIA) and agrees to comply with all requests made by the City of Aurora for public records (as that term is defined by Section 2(c) of FOIA in the undersigned's possession and to provide the requested public records to the City of Aurora within two (2) business days of the request being made by the City of Aurora. The undersigned agrees to indemnify and hold harmless the City of Aurora from all claims, costs, penalty, losses and injuries (including but not limited to, attorney's fees, other professional fees, court costs and/or arbitration or other dispute resolution costs) arising out of or relating to its failure to provide the public records to the City of Aurora under this agreement.

b. **Entire Agreement.** This Agreement, along with the documents set forth in Section 1 and incorporated by reference elsewhere in this Agreement, with consent of the parties, represents the entire agreement between the parties with respect to the performance of the Services. No other contracts, representations, warranties or statements, written or verbal, are binding on the parties. This Agreement may only be amended as provided herein.

c. **Consents and Approvals.** The parties represent and warrant to each other that each has obtained all the requisite consents and approvals, whether required by internal operating procedures or otherwise, for entering into this Agreement and the undertakings contemplated herein.

d. **Counterparts.** This Agreement may be executed in one or more counterparts, each of which shall be an original, but all of which shall constitute one and the same instrument.

FOR CITY OF AURORA

By: _____

ATTEST:

City Clerk

FOR _____

By _____

(SEAL)

(CORPORATE SEAL)

(If a Corporation) CORPORATE NAME _____

(SEAL)

By _____
President – Contractor

ATTEST:

Secretary

(If a Co-Partnership)

Partners doing Business under the firm

Contractor

(If an Individual) _____ (SEAL)

Contractor (SEAL)

**CITY OF AURORA
CHEMICALS FOR THE CITY OF AURORA WATER TREATMENT PLANT
INVITATION TO BID 16-44**

EXHIBIT 1

(INVITATION TO BID)

**CITY OF AURORA
CHEMICALS FOR THE CITY OF AURORA WATER TREATMENT PLANT
INVITATION TO BID 16-44**

EXHIBIT 2

(BID PROPOSAL FORM 16-44)

APPENDIX H

VENDOR APPLICATION PACKET

KEMIRA WATER SOLUTIONS, INC.

**UNANIMOUS WRITTEN CONSENT
OF THE BOARD OF DIRECTORS**

August 20, 2015

Pursuant to Section 141(f) of the General Corporation Law of the State of Delaware, the undersigned, being all of the members of the Board of Directors (the "*Board*") of **Kemira Water Solutions, Inc.**, a Delaware corporation (the "*Corporation*"), waiving all required notice and right to receive material otherwise required to be furnished in connection herewith, do hereby unanimously consent to and adopt the following resolutions as the actions of the Board in lieu of a special meeting and hereby direct that this written consent to such actions be filed with the minutes of the proceedings of the Board:

WHEREAS, the Corporation desires to set forth signature authority on behalf of the Corporation related to customs and transportation matters.

NOW THEREFORE, BE IT RESOLVED, that, **Christina Imbrogno, Manuel Moreau and Tammy Yergey**, (each an "*Authorized Person*"), are hereby authorized, empowered and directed, by and on behalf of the Corporation to execute and deliver in the name and on behalf of the Corporation product bids and product contracts as directed by the business or as the business shall require from time to time; and

FURTHER RESOLVED, that an Authorized Person be and hereby is authorized and directed to prepare, execute, deliver and file any and all agreements, amendments, certificates, and instruments related to the Bids and to take all such actions and to do all such things, as he, in his sole discretion, deems to be necessary or desirable to effect the transactions contemplated by and to carry into effect the intent and purpose of the foregoing resolutions.

[Remainder of page intentionally left blank.]
[Signature page follows.]

IN WITNESS WHEREOF, the foregoing resolutions shall be effective as of date first written above. .

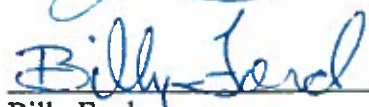
BOARD OF DIRECTORS:



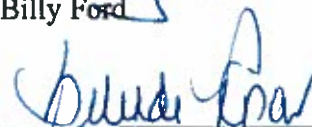
Carolina Den Brok-Perez



Tarjei Johansen



Billy Ford



Belinda Rosario

FERRIC CHLORIDE SPECIFIC GRAVITY VS. FeCl3%

SPGR	FeCl3%	SPGR	FeCl3%	SPGR	FeCl3%
1.3606	= 36.0	1.4174	= 40.3	1.4741	= 44.6
1.3619	= 36.1	1.4187	= 40.4	1.4754	= 44.7
1.3632	= 36.2	1.4200	= 40.5	1.4768	= 44.8
1.3646	= 36.3	1.4213	= 40.6	1.4781	= 44.9
1.3659	= 36.4	1.4226	= 40.7	1.4794	= 45.0
1.3672	= 36.5	1.4240	= 40.8	1.4807	= 45.1
1.3685	= 36.6	1.4253	= 40.9	1.4820	= 45.2
1.3698	= 36.7	1.4266	= 41.0	1.4834	= 45.3
1.3712	= 36.8	1.4279	= 41.1	1.4847	= 45.4
1.3725	= 36.9	1.4294	= 41.2	1.4860	= 45.5
1.3738	= 37.0	1.4306	= 41.3	1.4873	= 45.6
1.3751	= 37.1	1.4319	= 41.4	1.4886	= 45.7
1.3764	= 37.2	1.4332	= 41.5	1.4900	= 45.8
1.3777	= 37.3	1.4345	= 41.6	1.4913	= 45.9
1.3791	= 37.4	1.4358	= 41.7	1.4926	= 46.0
1.3804	= 37.5	1.4372	= 41.8	1.4939	= 46.1
1.3817	= 37.6	1.4385	= 41.9	1.4952	= 46.2
1.3830	= 37.7	1.4398	= 42.0	1.4966	= 46.3
1.3844	= 37.8	1.4411	= 42.1	1.4979	= 46.4
1.3857	= 37.9	1.4424	= 42.2	1.4992	= 46.5
1.3870	= 38.0	1.4438	= 42.3	1.5001	= 46.6
1.3883	= 38.1	1.4451	= 42.4	1.5018	= 46.7
1.3896	= 38.2	1.4464	= 42.5	1.5032	= 46.8
1.3910	= 38.3	1.4477	= 42.6	1.5045	= 46.9
1.3923	= 38.4	1.4490	= 42.7	1.5058	= 47.0
1.3936	= 38.5	1.4503	= 42.8	1.5071	= 47.1
1.3949	= 38.6	1.4517	= 42.9	1.5084	= 47.2
1.3962	= 38.7	1.4530	= 43.0	1.5098	= 47.3
1.3976	= 38.8	1.4543	= 43.1	1.5111	= 47.4
1.3989	= 38.9	1.4556	= 43.2	1.5124	= 47.5
1.4002	= 39.0	1.4570	= 43.3	1.5137	= 47.6
1.4015	= 39.1	1.4583	= 43.4	1.5150	= 47.7
1.4028	= 39.2	1.4599	= 43.5	1.5164	= 47.8
1.4042	= 39.3	1.4609	= 43.6	1.5177	= 47.9
1.4055	= 39.4	1.4622	= 43.7	1.5190	= 48.0
1.4068	= 39.5	1.4636	= 43.8		
1.4081	= 39.6	1.4650	= 43.9		
1.4094	= 39.7	1.4662	= 44.0		
1.4108	= 39.8	1.4675	= 44.1		
1.4121	= 39.9	1.4688	= 44.2		
1.4134	= 40.0	1.4702	= 44.3		
1.4147	= 40.1	1.4715	= 44.4		
1.4160	= 40.2	1.4728	= 44.5		

State of Kansas
County of Douglas

**Kemira Water Solutions, Inc.
Affidavit of Compliance**

This is to certify that the Ferric Chloride (Kemira PIX-311) manufactured by **Kemira Water Solutions, Inc.** for the City of Aurora meets or exceeds all specifications required by the City (ITB 16-44, Chemicals for the City of Aurora Water Treatment Plant) and those specifications as established by the latest American Water Works Association standards. All products bid have been certified under ANSI/NSF Standard 60.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 14 day of October, 2016.

Kemira Water Solutions, Inc.

By: 
Name: Christina Imbrogno
Title: Customer Service Manager

This instrument was signed and sworn to before me on 14 day of October, 2016 by Christina Imbrogno as Customer Service Manager of Kemira Water Solutions, Inc.


Signature of Notary Public
Print Name: Marcia Diane Moore

Attach Notarial Seal:

My appointment expires: 11-12-2018



Kemira PIX-311

Ferric Chloride, 37-42% Solution

KEMIRA PIX-311 is an effective primary coagulant in liquid form based on trivalent iron (Fe^{3+}). It functions very well for both potable and wastewater clarification and can be used for color removal, arsenic removal, phosphate removal, heavy metal removal and lime softening applications. KEMIRA PIX-311 can also be used effectively for hydrogen sulfide control, struvite control and in sludge conditioning applications.

Product Specification

Appearance	Dark Brown liquid
FeCl_3	37 ± 42%
Fe (III)	12.7 – 14.5%
Fe (II)	< 0.5%
Specific Gravity (25°C)	1.38 - 1.45 Kg/L

Typical Analysis

pH (25°C)	< 1
Free HCL	< 1%
Freezing Point	-25°C / -15°F

Certification / Approval

KEMIRA PIX-311 meets or exceeds all AWWA standards for liquid ferric chloride and is NSF/ANSI Standard 60 certified for use in potable water treatment up to 250 mg/l.

Dosing

KEMIRA PIX-311 should be fed straight. No dilution or preparation is required. A diaphragm, metering pump of non-corrosive material is suitable.

Storage

Storage tanks and piping should be constructed of suitable material such as fiberglass, or cross-linked polyethylene. KEMIRA PIX-311 is highly corrosive and contact with metal equipment must be avoided. With this chemical it is recommended to clean the storage tank every 1-2 year.

Handling / Safety

The handling of any chemical requires care. Anyone responsible for using or handling KEMIRA PIX-311 should familiarize themselves with the full safety precautions outlined in our Material Safety Data Sheet.

Delivery

Shipping Instructions; Ferric Chloride Solution, 8, UN 2582, P.G. III

Kemira makes this information available as an accommodation to its customers and it is intended to be solely a guide in customer's evaluation of the products. You must test our products, to determine if they are suitable for your intended uses and applications, as well as from the health, safety and environmental standpoint. You must also instruct employees, agents, contractors, customers or any third party which may be exposed to the products about all applicable precautions. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. You assume full liability and responsibility for compliance with all information and precautions, and with all laws and statutes, ordinances and regulations of any governmental authority applicable to the processing, transportation, delivery, unloading, discharge,

Kemira

1000 Parkwood Circle, Ste 500
Atlanta, GA 30339
USA
www.kemira.com

United States
Tel +1 800 879 6353
Canada
Tel +1 450 652 0665

KEMIRA PIX-311

Ref. /US/EN

Revision Date: 06/17/2015

Previous date: 05/29/2015

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1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product information

Product name
KEMIRA PIX-311

Recommended use of the chemical and restrictions on use

Use of the Substance/Mixture

Water treatment chemical

Recommended restrictions on use

There are no uses advised against.

Supplier's details

Kemira Water Solutions, Inc.
1000 Parkwood Circle, Suite 500
30339 Atlanta USA
Telephone+18635335990, Telefax. +18635337077

HEAD OFFICE
Kemira Oyj
P.O. Box 330
00101 HELSINKI
FINLAND
Telephone +358108611 Telefax +358108621124

Emergency telephone number

CHEMTREC: 1-800-424-9300
Carechem 24 International: +44 (0) 1235 239 670

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Corrosive to metals; Category 1; May be corrosive to metals.;
Acute toxicity (Oral); Category 4; Harmful if swallowed.;
Skin irritation; Category 2; Causes severe skin burns and eye damage.;
Serious eye damage; Category 1; Causes serious eye damage.;

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GHS-Labeling

Hazard pictograms



Signal word

: Danger

Hazard statements

: **Hazard statements:**

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.

Precautionary statements

: **Prevention:**

P234	Keep only in original container.
P264	Wash face, hands and any exposed skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P330	Rinse mouth.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P321	Specific treatment (see supplemental first aid instructions on this label).
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/ physician.
P390	Absorb spillage to prevent material damage.

Storage:

P406	Store in corrosive resistant container with a resistant inner liner.
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Disposal:
P501

Dispose of contents/container as special waste in compliance with local and national regulations.

Hazardous components which must be listed on the label:

- 7705-08-0 Iron trichloride
- 7647-01-0 Hydrochloric acid

Other hazards which do not result in classification

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances /Mixtures

Hazardous components

Chemical Name	CAS-No.	Concentration[%]
Iron trichloride	7705-08-0	35 - 45 %
Hydrochloric acid	7647-01-0	1 - 5 %

Further information

This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

This product contains WHMIS regulated (hazardous) components.

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4. FIRST AID MEASURES

Description of first aid measures

General advice

Show this safety data sheet to the doctor in attendance.

Inhalation

Rinse mouth and nose with water. Move to fresh air.

Call a physician if symptoms occur.

Skin contact

Take off contaminated clothing and shoes immediately. Rinse with plenty of water. Obtain medical attention.

Eye contact

Important! Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If possible use lukewarm water. Consult a physician.

Ingestion

Do NOT induce vomiting. Rinse mouth with water. Drink 1 or 2 glasses of water or milk. Never give anything by mouth to an unconscious person. Consult a physician.

Most important symptoms and effects, both acute and delayed

5. FIREFIGHTING MEASURES

Suitable extinguishing media

Not combustible.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

No special requirements.

Special hazards arising from the substance or mixture

Heating above the decomposition temperature can cause formation of hydrogen chloride.

Special protective actions for fire-fighters

Exposure to decomposition products may be a hazard to health. In the event of fire, wear self-contained breathing apparatus.

Use NIOSH/MSHA approved respiratory protection.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

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For personal protection see section 8.

Environmental precautions

Prevent product from entering the environment.

Restrict the spread of the spillage by using inert absorbent material (sand, gravel). Cover the drains. Must be disposed of in accordance with local and national regulations.

Methods and materials for containment and cleaning up

Clean-up methods - small spillage

Dilute residues with water and then neutralize with lime or limestone powder to a solid consistency. Shovel or sweep up. Must be disposed of in accordance with local and national regulations.

Clean-up methods - large spillage

Dilute residues with water and then neutralize with lime or limestone powder to a solid consistency. Shovel or sweep up remaining material. Must be disposed of in accordance with local and national regulations.

Additional advice

Inform the rescue service in case of entry into waterways, soil or drains.

7. HANDLING AND STORAGE

Precautions for safe handling

Danger for slipping. For personal protection see section 8. The work place and work methods shall be organized in such a way that direct contact with the product is prevented or minimized.

Handle and open container with care.

Conditions for safe storage, including any incompatibilities

Avoid high temperatures. Avoid freezing.

Materials for packaging

Suitable material: plastic (PE, PP, PVC), polyester with fibreglass reinforcement, rubber-coated steel, titanium

Materials to avoid:

Metals, Bases

Stainless steel, leather, non-acid proof metals (for example aluminium, copper and iron), Reaction with some metals may evolve flammable hydrogen gas.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Form of	Control	Update	Basis
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			exposure	parameters		
Hydrochloric acid	7647-01-0	(c)		2 ppm 3 mg/m ³	2009-04-30	CA AB OEL
		C		5 ppm 7 mg/m ³	2006-02-28	OSHA Z-1
Iron trichloride	7705-08-0	TWA		1 mg/m ³	2007-01-01	ACGIH
		STEL		2 mg/m ³	2006-11-29	CA BC OEL

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice.

Eye wash bottle or emergency eye-wash fountain must be found in the work place.

Individual protection measures, such as personal protective equipment

Respiratory protection

Respiratory protection is not required under normal handling conditions. If aerosols or mist are formed, eg. when cleaning containers with a high pressure washer, use half mask with filter B2.

Hand protection

Glove material: Rubber or plastic gloves, Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Skin and body protection

Wear protective clothing if necessary. Use rubber boots.

Eye protection

Tightly fitting safety goggles. Eye wash bottle with pure water

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state

liquid,

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Colour	dark brown
Odour	slightly acidic
Initial boiling point and boiling range	Boiling point/boiling range 100 - 105 °C
Flash point	Not applicable
Density	1.41 - 1.44 g/cm ³
Solubility(ies):	
Water solubility	(20 °C) completely soluble, At dilution to less than 1% of FeCl ₃ , precipitation of iron hydroxide occurs.
Partition coefficient: n-octanol/water	Not applicable, inorganic compound
Volatile organic content (VOC)	Not applicable

10. STABILITY AND REACTIVITY

Reactivity

Chemical stability

Possibility of hazardous reactions

Hazardous reactions: Bases cause exothermic reactions.

Conditions to avoid

Conditions to avoid: Avoid freezing.
Avoid storage at high temperatures.

Incompatible materials

Materials to avoid:

Metals
Bases

Stainless steel
leather
non-acid proof metals (for example aluminium, copper and iron)

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Reaction with some metals may evolve flammable hydrogen gas.

Hazardous decomposition products

Hazardous decomposition products

Heating above the decomposition temperature can cause formation of hydrogen chloride.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute oral toxicity

Iron trichloride:
/OECD Test Guideline 423
/Rat/220 mg/kg/LD50
Remarks: Calculated as Fe

Acute dermal toxicity

Iron trichloride:
LD50/Rat/>
/2,564 mg/kg/OECD Test Guideline 402
Remarks: Read-across (Analogy), CAS-No., 7758-94-3

Iron trichloride:
LD50/Rat/>
/881 mg/kg/OECD Test Guideline 402
Remarks: Calculated as Fe

Skin corrosion/irritation

Conclusion: Corrosive

Skin corrosion/irritation

Iron trichloride:
Rabbit
Result: irritating
/OECD Test Guideline 404
Remarks: Read-across (Analogy), CAS-No., 7758-94-3

Serious eye damage/eye irritation

Conclusion: Corrosive to the eyes.

Serious eye damage/eye irritation

Iron trichloride:
Rabbit
Result: Corrosive
/OECD Test Guideline 405
Remarks: Read-across (Analogy), CAS-No., 7758-94-3

Respiratory or skin sensitisation

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Skin sensitisation

Conclusion: Not sensitizing.

Skin sensitisation

Iron trichloride:

Conclusion: According to experience sensitization is not expected.

Carcinogenicity

Carcinogenicity

Iron trichloride:

Not believed to be a carcinogen.

Reproductive toxicity

Toxicity for reproduction

Iron trichloride:

Conclusion: Not believed to be toxic for reproduction.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Aquatic toxicity

Iron trichloride:

LC50/96 h/Lepomis macrochirus (Bluegill sunfish): 59 mg/l

Remarks: hydrated substance

NOEC/96 h/Lepomis macrochirus (Bluegill sunfish): > 1 mg/l

Remarks: hydrated substance

EC50/48 h/Daphnia magna (Water flea): 27 mg/l

NOEC/21 d/Daphnia magna (Water flea): > 1 mg/l

EC50/15 d/algae/rate of growth: 58 mg/l

Remarks: Test is not appropriate due to the flocculating characteristics of the product., The compound is considered to have no long term effects in aquatic systems due to the rapid formation of insoluble hydroxides.

Toxicity to other organisms

Iron trichloride:

Remarks: No data available

Persistence and degradability

Biological degradability:

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The methods for determining the biological degradability are not applicable to inorganic substances.

Biological degradability:

Iron trichloride:

The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential

Partition coefficient: n-octanol/water: Not applicable, inorganic compound

Iron trichloride:

Partition coefficient: n-octanol/water: Not applicable, inorganic compound

Mobility in soil

Water solubility: completely soluble (20 °C)

Iron trichloride:

Other adverse effects

May lower the pH of water and thus be harmful to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

Product	Classified as hazardous waste. Must be disposed of in accordance with local and national regulations. Thoroughly cleaned packaging material may be recycled.
Contaminated packaging	Classified as hazardous waste. Must be disposed of in accordance with local and national regulations.

14. TRANSPORT INFORMATION

UN number	2582
Land transport	
DOT:	
Description of the goods:	UN2582, Ferric chloride, solution
Proper shipping name	
Class:	8
Packaging group:	III
DOT-Labels	8
Reportable quantity	Ferric chloride



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TDG:

Description of the goods: UN2582, Ferric chloride, solution
Proper shipping name
Class: 8
Packaging group: III
TDG-Labels: 8
Reportable quantity: Ferric chloride

Sea transport

IMDG:

Description of the goods:
UN proper shipping name: UN2582, FERRIC CHLORIDE, SOLUTION
Class: 8
Packaging group: III
IMDG-Labels: 8
Environmentally Hazardous: Not a Marine Pollutant

Air transport

ICAO/IATA:

Description of the goods:
UN proper shipping name: UN2582, Ferric chloride solution
Class: 8
Packaging group: III
ICAO-Labels: 8

Special precautions for user

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Title III Section 311 Categories

Immediate (Acute) Health Effects: Yes;
Delayed (Chronic) Health Effects: No;
Sudden Release Of Pressure Hazard: No;
Fire Hazard: No;
Reactivity Hazard: No;

CERCLA Hazardous substance (Reportable Quantities)

CERCLA Hazardous substance (Reportable Quantities)

CERCLA Hazardous substance (Reportable Quantities)

Hydrochloric acid (7647-01-0)
5,000 lb

Diiron tris(sulphate) (10028-22-5)
1,000 lb



SAFETY DATA SHEET

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Iron trichloride (7705-08-0)
1,000 lb

Hydrochloric acid (7647-01-0)

Iron trichloride (7705-08-0)

California Proposition 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.
None Present ()

Other regulations : No restrictions identified other than those already covered in regulations.

Notification status

- :
- : All components of this product are included in the United States TSCA Chemical Inventory or are not required to be listed on the United States TSCA Chemical Inventory.
- : All components of this product are included in the Canada Domestic Substance List (DSL) or are not required to be listed on the Canada Domestic Substance List (DSL).
- : All components of this product are included in the Australian Inventory of Chemical Substances (AICS) or are not required to be listed on the Australian Inventory of Chemical Substances (AICS).
- : All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.
- : All components of this product are included in the Korean (ECL) inventory or are not required to be listed on the Korean (ECL) inventory.
- : All components of this product are included on the Philippine (PICCS) inventory or are not required to be listed on the Philippine (PICCS) inventory.
- : All components of this product are included on the Japanese

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- (ENCS) inventory or are not required to be listed on the Japanese (ENCS) inventory.
- : All components of this product are included in the European Inventory of Existing Chemical Substances (EINECS) or are not required to be listed on EINECS.
 - : All components of this product are included in the New Zealand inventory (NZIoC) or are not required to be listed on the New Zealand inventory (NZIoC).
 - : This product's Taiwan Toxic Chemical Substances Control Act Inventory status has NOT been determined.

16. OTHER INFORMATION

HMIS Rating

Health: 3
Flammability: 0
Reactivity: 1

NFPA Rating

Health: 3
Fire: 0
Reactivity: 1

Training advice

Read the safety data sheet before using the product.

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Sources of key data used to compile the Safety Data Sheet

Regulations, databases, literature, own tests.

Additions, Deletions, Revisions

Relevant changes have been marked with vertical lines.



The Public Health and Safety Organization

NSF Product and Service Listings

These NSF Official Listings are current as of **Friday, October 14, 2016** at 12:15 a.m. Eastern Time. Please contact NSF International to confirm the status of any Listing, report errors, or make suggestions.

Alert: NSF is concerned about fraudulent downloading and manipulation of website text. Always confirm this information by clicking on the below link for the most accurate information: <http://info.nsf.org/Certified/PwsChemicals/Listings.asp?CompanyName=kemira+water&TradeName=pix%2D311&>

NSF/ANSI 60 Drinking Water Treatment Chemicals - Health Effects

Kemira Water Solutions, Inc.

316 Bartow Municipal Airport

Bartow, FL 33830

United States

888-KEMIRON

863-533-5990

Visit this company's website

(<http://www.kemira.com>)

Facility : Distribution Center - Birmingham, AL

Ferric Chloride

Trade Designation

Product Function

Max Use

KEMIRA PIX-311	Coagulation & Flocculation	250mg/L
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Facility : Distribution Center- Mulga, AL**Ferric Chloride****Trade Designation**

Kemira PIX-311

Product Function

Coagulation & Flocculation

Max Use

250mg/L

Facility : Distribution Center - Buckeye, AZ**Ferric Chloride****Trade Designation**

KEMIRA PIX-311

Product Function

Coagulation & Flocculation

Max Use

250mg/L

Facility : Distribution Center - Warm Springs, CA**Ferric Chloride****Trade Designation**

KEMIRA PIX-311

Product Function

Coagulation & Flocculation

Max Use

250mg/L

Facility : Fontana, CA**Ferric Chloride****Trade Designation**

KEMIRA PIX-311

Product Function

Coagulation & Flocculation

Max Use

250mg/L

Facility : Mojave, CA

Ferric Chloride

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
KEMIRA PIX-311	Coagulation & Flocculation	300mg/L

Facility : Distribution Center - Doraville, GA**Ferric Chloride**

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
KEMIRA PIX-311	Coagulation & Flocculation	250mg/L

Facility : East Chicago, IN**Ferric Chloride**

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
KEMIRA PIX-311	Coagulation & Flocculation	250mg/L

Facility : Kansas City, KS**Ferric Chloride**

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Kemira PIX-311	Coagulation & Flocculation	250mg/L

Facility : Baltimore, MD**Ferric Chloride**

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
KEMIRA PIX-311	Coagulation & Flocculation	250mg/L

Facility : Distribution Center - North Billerica, MA**Ferric Chloride**

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Kemira PIX-311	Coagulation & Flocculation	250mg/L

Facility : St. Louis, MO**Ferric Chloride**

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
KEMIRA PIX-311	Coagulation & Flocculation	250mg/L

Facility : Distribution Center - Albuquerque, NM**Ferric Chloride**

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
KEMIRA PIX-311	Coagulation & Flocculation	250mg/L

Facility : Distribution Center - Euclid, OH**Ferric Chloride**

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
KEMIRA PIX-311	Coagulation & Flocculation	250mg/L

Facility : Distribution Center- Avondale, PA**Ferric Chloride**

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Kemira PIX-311	Coagulation & Flocculation	250mg/L

Facility : Distribution Center - El Paso, TX**Ferric Chloride**

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
KEMIRA PIX-311	Coagulation & Flocculation	250mg/L

Facility : Distribution Center - Waxahachie, TX**Ferric Chloride**

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Kemira PIX-311	Coagulation & Flocculation	250mg/L

Facility : Houston, TX**Ferric Chloride**

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
KEMIRA PIX-311	Coagulation & Flocculation	250mg/L

Facility : Distribution Center - Salt Lake City, UT**Ferric Chloride**

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Kemira PIX-311	Coagulation & Flocculation	250mg/L

Facility : Kalama, WA**Ferric Chloride**

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
KEMIRA PIX-311	Coagulation & Flocculation	250mg/L

Facility : Spokane, WA

Ferric Chloride		
<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
KEMIRA PIX-311	Coagulation & Flocculation	250mg/L

Facility : Distribution Center - Guelph, Ontario, Canada

Ferric Chloride		
<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Kemira PIX-311	Coagulation & Flocculation	250mg/L

Facility : Distribution Center - Winnipeg, Manitoba, Canada

Ferric Chloride		
<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Kemira PIX-311	Coagulation & Flocculation	250mg/L

NOTE: Only products bearing the NSF Mark are Certified.

Facility : Varennes, Quebec, Canada

Ferric Chloride		
<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
KEMIRA PIX-311	Coagulation & Flocculation	250mg/L

Number of matching Manufacturers is 1

Number of matching Products is 24

Processing time was 0 seconds