

SECTION IV

**BAY AREA CHEMICAL CONSORTIUM
BID CONTRACT DOCUMENTS
FOR BID NO. 07-2023
FERROUS CHLORIDE**

***** All of the following pages must be properly completed and submitted
for the bid to be considered complete. *****

**BAY AREA CHEMICAL CONSORTIUM
STANDARD AGREEMENT, PAGE 1 OF 2
BID NO. 07-2023
SUPPLY AND DELIVERY OF FERROUS CHLORIDE**

I hereby agree to furnish FERROUS CHLORIDE identified in the attached bid forms, as solicited by the Bay Area Chemical Consortium (BACC), to one or more of the participating BACC Agencies.

Company: Kemira Water Solutions, Inc.
Address: 4321 W. 6th St
Lawrence, KS 66049
City, State, ZIP: _____
Phone: (785) 842-7424
Email: kwsna.bids@kemira.com
Authorized Representative: Christina M. Imbrogno
Signature: 
Date: 2/21/23

WE ACKNOWLEDGE RECEIVING ADDENDUM/ADDENDA NUMBER 1 THROUGH _____.

SPECIFIC DEVIATIONS:

This box must be checked if bidder has any proposed specific deviations. Per Section 2.12 Proposed Deviations from the Specifications by the Bidder, the absence of a proposed change in the specifications will hold the bidder strictly accountable to the specifications as described in the bid document, including any addendum.

Describe the specific deviations below. A copy of the proposed specifications must be attached to this Standard Agreement at the time of submission, with bidder's name clearly shown on each document.

STANDARD AGREEMENT, PAGE 2 OF 2

BIDDER INFORMATION

1. Legal Name of Bidder: Kemira Water Solutions, Inc.
2. Bidder's Street Address: 4321 W. 6th St.
Lawrence, KS 66049
3. Mailing Address: 4321 W. 6th St.
Lawrence, KS 66049
4. Business Telephone: (785) 842-7424 Fax Number: (785) 842-2629
5. Type of Supplier:
 Sole Proprietor Partnership Corporation LLC
If Corporation, indicate State where incorporated: Delaware
6. Business License Number issued by the City where the Supplier's principal place of business is located.
Number: 130579-59 Issuing City: Los Angeles
7. Supplier Federal Tax Identification Number: 59-3657872
8. Emergency Contact: Name: Customer Service
Phone Number: (800) 927-3950
9. Order Contact: Name: Customer Service
Address: Atlanta, GA
Phone Number: (800) 927-3950 Fax Number: (700) 436-3432
Email: IW-customer.service@Kemira.com
10. References:
- | Company/Agency Name | Contact Name | Phone Number |
|-----------------------------------|--------------------------|-----------------------|
| 1) <u>City of San Francisco</u> | <u>Evan Magawke</u> | <u>(415) 487-5207</u> |
| 2) <u>Union Sanitary District</u> | <u>Mitchell Costello</u> | <u>(510) 477-7564</u> |
| 3) <u>City of Daly City</u> | <u>Brandon Wardle</u> | <u>(650) 991-8200</u> |
11. Chemical Manufacturer's name and address (if different from Bidder):
Kemira Water Solutions, Inc.
Mojave, CA

**Non-Collusion Affidavit
To Be Executed By Bidder and Submitted With Bid**

State of ~~California~~ Kansas)
) ss.
County of Douglas)

Christina M. Imbrogno, being first duly sworn, deposes and says that he or she is the
(Bidder's Authorized Representative)

Commercial Support Manager of Kemira Water Solutions, Inc. the party making the
(Title of Representative) (Legal Name of Bidder)

foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bid, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

I declare under penalty of perjury under the laws of the state of California that the foregoing is true and correct.

Christina M. Imbrogno

Signature of: President, Secretary,
Manager, Owner, or Representative

Subscribed and sworn to before me this, 20 day of February, 20 23

Brittany Ashton Jarvis
Signature of Notary Public In and For

The County of Douglas
State of Kansas



All Signatures Must Be Witnessed By Notary

**BAY AREA CHEMICAL CONSORTIUM
BID FORM FOR BID NO. 07-2023
FOR SUPPLY AND DELIVERY OF FERROUS CHLORIDE**

Sealed bids must be submitted in a PDF format and bidders must enter bid prices into the electronic bid platform (Line Item page)
<https://bacwa.org/bacc/>

No later than 4:00 PM. PT
Thursday, February 23, 2023

Legal Name of Bidder:
Kemira Water Solutions, Inc.

Business Address
4321 W. 6th St.
Lawrence, KS 66049

Telephone Number: (785) 842-7424
Facsimile Number: (785) 842-2629
Email Address: Kwsna.bids@kemira.com

Authorized Representative (Please Print):
Christina M. Imbrogno

Signature: 
Date: 2/20/22

I. All costs except California State sales tax for the purchase of FERROUS CHLORIDE must be included in the amount shown entered into the electronic bid platform (Line Item page), including any and all mill assessments, fees, excise taxes, transportation charges, etc. Any exceptions to the bid must be noted under Specific Deviations on the Standard Agreement. Bidders shall submit bids per unit of measure as specified in the electronic bid platform (Line Item page).

II. Bidders must submit all of the following, attached to this Bid Form:

- a. All requirements listed in Section 2.21 Manufacturer's Info.
- b. If applicable, the name, address, and contact information for the third party hauling company as well as an affidavit signed by the Bidder that the third party hauler can and will deliver the chemical to each and every participating BACC Agency.

III. Bidder Obligations

By signing this Bid Form and entering into individual purchase orders, purchase agreements and/or contracts with BACC agencies, the bidder expressly agrees to be bound by all the provisions of the bid solicitation, including Sections I-IV.

**BAY AREA CHEMICAL CONSORTIUM
Worksheet
BID NO. 07-2023
FERROUS CHLORIDE**

Refer to paragraph 2.4 Bid Pricing for full details.

*Bidders shall submit bids in US\$ per unit of measure indicated on this bid form, FOB Destination.
Bid prices shall be based on bulk deliveries of 1 ton or more. Bidders must submit their Bid Prices via electronic bid platform - Line Items section. Do not submit Worksheet.*

	Unit of Measure	Bid Price per Unit of Measure
<u>East Bay</u> Union Sanitary District	dry ton	\$
<u>North Bay</u> Delta Diablo Sanitation District Mt. View Sanitary District	dry ton	\$
<u>Peninsula</u> City of Daly City/North San Mateo County Sanitation District	dry ton	\$
<u>South Bay</u> City of San Jose	dry ton	\$
<u>Tri Valley</u> Dublin San Ramon Services District	dry ton	\$

**DO NOT SUBMIT WORKSHEET
ENTER BID PRICES VIA ELECTRONIC BID PLATFORM**

ADDENDUM NO. 1
REQUEST FOR BIDS
BAY AREA CHEMICAL CONSORTIUM (BACC) BID NO. 07-2023
FOR SUPPLY AND DELIVERY OF FERROUS CHLORIDE
Addendum Issue Date: February 16, 2023

TO ALL BIDDERS: The purpose of this Addendum is to make changes, additions, deletions, revisions, and clarifications to the bid mentioned above. The changes incorporated in the Addendum shall be considered as a part of the document and shall supersede, amend, add to, and/or subtract from those conditions shown in the original bid.

Acknowledgement: Bidders must acknowledge receipt of any and all Addenda in the space provided on the Standard Agreement of the bid document. Failure to do so may subject the Bidder to disqualification. All requirements of the bid documents remain unchanged except as cited herein.

ADDENDUM ITEMS:

1) Section / Page: Section III – 1 Estimated Quantities / Page 22
Estimated Quantities for City of San Jose **ADDED** 1248 dry tons Wastewater Treatment
Revised Section III – 1 Estimated Quantities is attached.

2) Section / Page: Section III – 2 Delivery Details / Page 24
Delivery Details for City of San Jose **ADDED**
City of San Jose Canoas Injection Station
616 Blossom Hill Rd San Jose, CA, 95123
Frequency of Delivery: 3x/week on Monday, Wednesday, and Friday
Typical Delivery Size: 48,000-50,000 lbs/load
Revised Section III – 2 Delivery Details is attached.

3) Section / Page: Section III – 3 Participating Member Agency Contact List / Page 26
Participating Member Agency Contact information for City of San Jose **ADDED**
CITY OF SAN JOSE
DOT - Storm and Sanitary Sewer Section 1404 Mabury Yard San Jose, CA 95113
Jim Wilson Jim.wilson@sanjoseca.gov
Ben Nguyen Senior Engineer ben.nguyen@sanjoseca.gov 408-794-6450
Jennifer Sequin Division Manager jennifer.seguin@sanjoseca.gov 408-794-6453
Alberto Gaxiola Associate Engineer alberto.gaxiola@sanjoseca.gov 408-794-7467
Revised Section III – 3 Participating Member Agency Contact List is attached.

4) Section / Page: Section IV – Bid Contract Documents / Page 33
ADDED City of San Jose to Worksheet
Revised Section IV – Bid Contract Documents – Worksheet is attached.

Bid opening date of February 23, 2023 remains unchanged.

END OF ADDENDUM NO. 1



Kemira PIX-411

Ferrous Chloride, 27-36% Solution

KEMIRA PIX-411 is a coagulant in liquid form based on divalent iron (Fe^{2+}). Its uses include: control of odor and corrosion caused by hydrogen sulfide; phosphorus removal; control of struvite formation; as a raw material in manufacturing applications; and chlorite reduction in potable water treatment.

Typical Properties

Appearance	Green to brown liquid
Specific Gravity (20°C/68°F)	1.28 – 1.44
FeCl_2	27 – 36 wt. %
Fe (II)	12.0 – 16.0 wt. %
Free Acid (HCl)	< 1.0 wt. %
Freezing Point	-35°C / -31°F to -29°C / -20°F

This TDS is a general representation of the product. Detailed product specification/analysis is available upon request.

Certification / Approval

KEMIRA PIX-411 is NSF/ANSI Standard 60 certified for use in potable water treatment.

Dosing

KEMIRA PIX-411 can be fed straight. No dilution or preparation is required. A diaphragm m-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-411 has a recommended shelf life of minimum six (6) months in an appropriate storage environment. With this product, inspect the storage tank yearly, clean if necessary.

Handling / Safety

The handling of any chemical requires care. Anyone responsible for using or handling KEMIRA PIX-411 should familiarize themselves with our Safety Data Sheet.

Delivery

Shipping Instructions: Corrosive Liquid, n.o.s. (Ferrous chloride) 8, UN 1760, P.G. II

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, storage, handling, sale and use of each product. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use.

Kemira

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Atlanta, GA 30339
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Tel +1 800 879 6353
Canada
Tel +1 450 652 0665

The Americas Quality Lab

Analytical Report

Date Reported: 2/21/2023

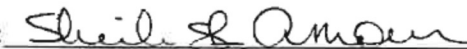
Sample Description: PIX-411 Ferrous Chloride

Sample Date: 2/15/2023

Sample ID: 1O16230101

Parameter	Result	Unit	Method	Reporting Limit		Analyst	Date
Ferrous	16.14	%	KWS QL 3312	0.05	%	MK	2/16/23
Ferrous Chloride	36.63	%	KWS QL 3312	0.11	%	MK	2/16/23
Free Acid as HCl	<0.05	%	KWS QL 3210	0.05	%	NH	2/16/23
Specific Gravity	1.425		KWS QL 3112			MK	2/16/23
Insoluble Solids	0.026	%	KWS QL 3410	0.005	%	MK	2/20/23

Certified by:



Sheila St. Amour, Laboratory Supervisor



KEMIRA PIX-411

Ref. /US/EN

Revision Date: 11/15/2021

Previous date: 11/12/2021

Print Date:02/17/2023

1. IDENTIFICATION**Product information****Product name**
KEMIRA PIX-411**Recommended use of the chemical and restrictions on use****Use of the Substance/Mixture**

Flocculating agent, Water treatment chemical

Recommended restrictions on use

Do not use for other purposes than the identified uses.

Supplier's detailsKemira Water Solutions, Inc.
1000 Parkwood Circle, Suite 500
30339 Atlanta USA
Telephone+17704361542, Telefax. +17704363432HEAD OFFICE
Kemira Oyj
P.O. Box 330
00101 HELSINKI
FINLAND
Telephone +358108611 Telefax +358108621124**Emergency telephone number**

CHEMTREC (24 Hours): 1-800-424-9300

2. HAZARDS IDENTIFICATION**GHS Classification**Corrosive to metals, Category 1,
Acute toxicity (Oral), Category 4, Oral,
Skin corrosion/irritation, Category 2,
Serious eye damage, Category 1,**GHS-Labeling**

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Print Date:02/17/2023

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 + P330 IF SWALLOWED: Call a doctor if you feel unwell. Rinse mouth.
 P302 + P352 + P312 IF ON SKIN: Wash with plenty of soap and water. Call a doctor if you feel unwell.
 P332 + P313 If skin irritation occurs: Get medical attention.
 P303 + P361 + P353 + P310 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER.
 P363 Wash contaminated clothing before reuse.
 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/ doctor.
 P390 Absorb spillage to prevent material damage.

Storage:

P406 Store in corrosive resistant container with a resistant inner liner.

Disposal:

P501 Dispose of contents/container as

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special waste in compliance with local and national regulations.

Hazard(s) not otherwise classified (HNOC) or not covered/classified by GHS

Potential environmental effects; May lower the pH of water and thus be harmful to aquatic organisms.

Remarks; This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances /Mixtures

Mixture
Chemical nature : Ferrous Chloride Solution

Hazardous components

Chemical name	CAS-No.	Concentration[%]
Iron dichloride	7758-94-3	20 - 40 %
Hydrochloric acid	7647-01-0	<= 1 %

Further information

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

4. FIRST AID MEASURES

Description of first aid measures

General advice

Show this safety data sheet to the doctor in attendance. First aider needs to protect himself.

Inhalation

If breathed in, move person into fresh air. If symptoms persist, seek medical advice.

Skin contact

Take off contaminated clothing and shoes immediately. Rinse with plenty of water. If symptoms persist, seek medical advice.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Prevent rinsing water from flowing into the other eye. Call a physician immediately. Continue rinsing eyes during transport to hospital.

Ingestion

Rinse mouth with water. Do NOT induce vomiting. If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed

Symptoms : The possible symptoms known are those derived from the labelling (see section 2). No additional symptoms are known.

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

Treatment : All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable extinguishing media

Foam, Dry powder, Water spray, Carbon dioxide (CO₂)

Unsuitable extinguishing media

None known.

Special hazards arising from the substance or mixture

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

Exposure to decomposition products may be a hazard to health. Do not allow run-off from fire fighting to enter drains or water courses.

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.

Further information

Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Wear respiratory protection. Ensure adequate ventilation.

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. Local authorities should be advised if significant spillages cannot be contained.

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

Remove spill using a vacuum truck. 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

For personal protection see section 8.

7. HANDLING AND STORAGE

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. 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. Keep away from incompatible materials. Contact with certain metals, e.g. aluminium and zinc, may form hydrogen gas, which in turn may form explosive mixtures of gases with air.

Conditions for safe storage, including any incompatibilities

Keep away from incompatible materials.

For quality reasons: Keep at temperatures above 0 °C. Keep at temperatures below 30 °C.

Materials for packaging

Suitable material: plastic (PE, PP, PVC), fiberglass-reinforced polyester, rubber-coated steel

Unsuitable material: Avoid contact with unalloyed steel or galvanized surfaces., many metals, Nylon, materials not resistant to acid, Copper, Aluminium, Iron, Zinc, brass, titanium

Materials to avoid:

Metals, Bases, Alkaline materials, Oxidizing agents, Reducing agents, sulphites, Sulphides

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Components	CAS-No.	Value	Form of exposure	Control parameters	Update	Basis
Ferrous chloride	7758-94-3	TWA		1 mg/m ³	2007-01-01	ACGIH
		TWA		1 mg/m ³	1989-01-19	OSHA P0
		TWA		1 mg/m ³	2005-09-01	NIOSH REL
		TWA		1 mg/m ³	2019-03-05	ACGIH
		TWA		1 mg/m ³	2013-10-08	NIOSH REL
Hydrochloric acid	7647-01-0	TWA		1 mg/m ³	1989-01-19	OSHA P0
		C		2 ppm	2007-01-01	ACGIH
		C		5 ppm 7 mg/m ³	2013-10-08	NIOSH REL
		C		5 ppm 7 mg/m ³	2006-02-28	OSHA Z-1
		C		5 ppm 7 mg/m ³	1989-01-19	OSHA P0
		PEL		0.3 ppm 0.45 mg/m ³	2014-11-26	CAL PEL
		C		2 ppm	2014-11-26	CAL PEL

Appropriate engineering controls

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

Individual protection measures, such as personal protective equipment Industrial Hygiene

Handle in accordance with good industrial hygiene and safety practice.

Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection

Respiratory protection is not required under normal handling conditions.

In case of insufficient ventilation wear suitable respiratory equipment.

Hand protection

Chemical resistant 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. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough.

Skin and body protection

Wear protective clothing if necessary. Use rubber boots.

Eye protection

Wear eye protection/ face protection. Tightly fitting safety goggles or face-shield.

Environmental exposure controls

Do not allow uncontrolled discharge of product into the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid
Form	Aqueous solution
Colour	light green/brown
Odour	slightly acidic
Odour Threshold pH	No data available < 1

Freezing point/Melting point : -29 °F
7/16

Initial boiling point and boiling range	Boiling point/boiling range ca. 220 - 230 °F
Flash point	Not applicable, inorganic compound
Evaporation rate	similar to water
Flammability (solid, gas)	not flammable
Explosive properties:	
Lower explosion limit	No data available
Upper explosion limit	No data available
Oxidizing properties	No data available
Vapour pressure	similar to water
Relative vapour density	similar to water
Density	1.23 - 1.44 g/cm ³ (68 °F)
Relative density	No data available
Solubility(ies):	
Water solubility	miscible
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	> 212 °F
Viscosity:	
Viscosity, dynamic	No data available
Viscosity, kinematic	No data available
Oxidizing potential	No data available
Volatile organic content (VOC)	Not applicable
Surface tension	No data available

10. STABILITY AND REACTIVITY

Reactivity

Corrosive to metals.

Chemical stability

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Stable under normal conditions.

Possibility of hazardous reactions

Bases cause exothermic reactions.
Contact with certain metals may form hydrogen gas, which in turn may form explosive mixtures of gases with air.

Conditions to avoid

Stable under normal conditions.

Incompatible materials

Metals
Bases
Alkaline materials
Oxidizing agents
Reducing agents
sulphites
Sulphides

Hazardous decomposition products

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

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute oral toxicity	Acute toxicity estimate/1,000 - 1,500 mg/kg Conclusion: Harmful if swallowed.
Acute oral toxicity	Iron dichloride: LD50/Rat/220 mg/kg/OECD Test Guideline 423 Remarks: Calculated as Fe
Acute inhalation toxicity	Iron dichloride: No observed adverse effect level/1.1 mg//EPA OPP 81-3 Hydrochloric acid: LC50/Rat/30 min/4701 ppm Remarks: gas

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	<p>Hydrochloric acid: LC50/Rat/30 min/8.3 mg/l Remarks: aerosol</p>
Acute dermal toxicity	<p>Iron dichloride: LD50/Rat/>/2,000 mg/kg/OECD Test Guideline 402</p> <p>Iron dichloride: LD50/Rat/>/881 mg/kg/OECD Test Guideline 402 Remarks: Calculated as Fe</p>
Skin corrosion/irritation	<p>Remarks: Causes skin irritation.</p>
Skin corrosion/irritation	<p>Iron dichloride:Rabbit Result: No irritating effects. /OECD Test Guideline 404 Hydrochloric acid:EPISKIN Human Skin Model Test Result: Corrosive /OECD Test Guideline 431/1 h</p>
Serious eye damage/eye irritation	<p>Conclusion: Causes serious eye damage.</p>
Serious eye damage/eye irritation	<p>Iron dichloride: Rabbit Result: Causes serious eye damage./OECD Test Guideline 405 Remarks: Read-across (Analogy), 7758-94-3, dry substance</p> <p>Hydrochloric acid: Rabbit Result: Risk of serious damage to eyes./OECD Test Guideline 405/0,1 ml, conc. 10 %/yes</p>
Respiratory or skin sensitisation	
Skin sensitisation	<p>Conclusion: May cause an allergic skin reaction.</p>
Skin sensitisation	<p>Iron dichloride: Local lymph node assay (LLNA)/Mouse Result: Not sensitizing./OECD Test Guideline 429/ferrous sulfate Hydrochloric acid: Maximisation Test/Guinea pig Result: Not sensitizing.</p>
Germ cell mutagenicity	
Genotoxicity in vitro	<p>Conclusion: Based on available data, the classification criteria are not met.</p>

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Genotoxicity in vitro

Iron dichloride:

reverse mutation assay/Salmonella typhimurium (bacterium)/with and without

Result: negative

OECD Test Guideline 471/ferrous chloride

Hydrochloric acid:

In vitro mitotic recombination/Saccharomyces cerevisiae/with and without

Result: negative

Conclusion: not mutagenic

Carcinogenicity

Carcinogenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Iron dichloride:

/Rat/Oral/2 years/No observed adverse effect level/>0.5%/ferric chloride

Not believed to be a carcinogen.

Hydrochloric acid:

/Rat/Inhalation/15/mg/m³/OECD Test Guideline 451

Not carcinogenic.

Reproductive toxicity

Toxicity for reproduction

Remarks: Based on available data, the classification criteria are not met.

Toxicity for reproduction

Iron dichloride:

Reproductive effects/Rat/Oral/>500 mg/kg/ferrous chloride/OECD Test Guideline 422

Hydrochloric acid:

Remarks: No data available

Teratogenicity

Iron dichloride:

Rat/Oral/>1,000 mg/kg/OECD Test Guideline 422/ferrous sulfate heptahydrate

Conclusion: Did not show teratogenic effects in animal experiments.

Specific target organ toxicity - single exposure

Remarks:Based on available data, the classification criteria are not met.

Specific target organ toxicity - single exposure

Hydrochloric acid:

/May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

Remarks:Based on available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure	Hydrochloric acid: /The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Aspiration hazard	
Aspiration toxicity	No aspiration toxicity classification
Aspiration toxicity	Hydrochloric acid: No aspiration toxicity classification

Further information

The product is classified as corrosive due to the low pH.

12. ECOLOGICAL INFORMATION**Ecotoxicity effects****Aquatic toxicity**

Remarks: This material is not classified as dangerous for the environment.,The compound is considered to have no long term effects in aquatic systems due to the rapid formation of insoluble hydroxides.

Iron dichloride:

LC50/96 h/Oryzias latipes (Japanese rice fish)/OECD Test Guideline 203: 47 mg/l

NOEC/90 d/Oncorhynchus kisutch (Coho salmon): > 1 mg/l

EC50/48 h/Daphnia magna (Water flea)/OECD Test Guideline 202: 19 mg/l

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

IC50/72 h/Pseudokirchneriella subcapitata (green algae)/OECD Test Guideline 201: 6.9 mg/l

Hydrochloric acid:

LC50/96 h/Lepomis macrochirus (Bluegill sunfish)/semi-static test: 20.5 mg/l

Remarks: fresh water

EC50/48 h/Daphnia magna (Water flea)/static test/OECD Test Guideline 202: 0.45 mg/l

EC50/Chlorella vulgaris (Fresh water algae)/static test/OECD Test Guideline 201: 0.73 mg/l

Remarks: Fresh water

Toxicity to other organisms**Hydrochloric acid:**

LOEC/flora: 6 mg/l

Persistence and degradability

Biological degradability:**Iron dichloride:**

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

Hydrochloric acid:

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

Bioaccumulative potential

Partition coefficient: n-octanol/water: No data available

Iron dichloride:

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

Hydrochloric acid:

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

Mobility in soil

Vapour pressure: 0.023 (68 °F)

Water solubility: miscible

Surface tension: No data available

Hydrochloric acid:

Vapour pressure: > 1,013 hPa (25 °C)

Water solubility:ca. 500 g/l (25 °C)

Other adverse effects

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

13. DISPOSAL CONSIDERATIONS**Product**

The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging

Dispose of in compliance with local and national regulations.
Must be disposed of in accordance with local and national regulations.

14. TRANSPORT INFORMATION**UN number**

1760

Land transport**DOT:****Description of the goods:** UN1760, Corrosive liquid, n.o.s. (Ferrous chloride)**Proper shipping name****Class:** 8**Packaging group:** II**DOT-Labels:** 8**Reportable quantity:** Ferrous chloride**Sea transport****IMDG:****Description of the goods:****UN proper shipping name:** UN1760, CORROSIVE LIQUID, N.O.S. (FERROUS CHLORIDE)**Class:** 8**Packaging group:** II**IMDG-Labels:** 8**Environmentally Hazardous:** Not a Marine Pollutant**Air transport****ICAO/IATA:****Description of the goods:****UN proper shipping name:** UN1760, Corrosive liquid, n.o.s. (Ferrous chloride)**Class:** 8**Packaging group:** II**ICAO-Labels:** 8**Special precautions for user**

None known.

15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture****SARA Title III Section 311 Categories**

- Corrosive to metals, Category 1,
- Acute toxicity (Oral), Category 4, Oral
- Skin corrosion/irritation, Category 2,
- Serious eye damage, Category 1,

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III

KEMIRA PIX-411

Ref. /US/EN

Revision Date: 11/15/2021

Previous date: 11/12/2021

Print Date:02/17/2023

Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)

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

CERCLA Hazardous substance (Reportable Quantities)

CERCLA Hazardous substance (Reportable Quantities)

Chemical name	CAS-No.	Reportable quantity
Iron dichloride	7758-94-3	100 lb

Chemical name	CAS-No.	Reportable quantity
Hydrochloric acid	7647-01-0	5,000 lb

California Proposition 65

WARNING: This product contains a chemical(s) known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Nickel dichloride (7718-54-9) <= 165 PPM

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

Notification status

USA	: All components of this product are included in the United States TSCA Chemical Inventory with Active Status or are not required to be listed on the United States TSCA Chemical Inventory.
Canada	: 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).
Australia	: All components of this product are NOT included on the Australian Inventory of Industrial Chemicals (AIIC).
China	: All components of this product are NOT included on the Chinese inventory.
European Union	: All components of this product are NOT included on the European Inventory of Existing Chemical Substance (EINECS) inventory.
Japan	: All components of this product are NOT included on the Japanese (ENCS) inventory.
South Korea	: All components of this product are NOT included on the Korean (ECL) inventory.
New Zealand	: All components of this product are NOT included on the New Zealand Inventory of Chemical Substances.
Philippines	: All components of this product are NOT included on the Philippine (PICCS) inventory.

Taiwan : All components of this product are NOT included on the Taiwan Chemical Substances Inventory.

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.

This Safety Data Sheet is prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200), an adoption of the UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Revision 3 by Kemira.

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.

Revision Date: 11/15/2021



The Public Health and Safety Organization

NSF Product and Service Listings

These NSF Official Listings are current as of **Friday, February 17, 2023** at 12:15 a.m. Eastern Time. Please [contact NSF](#) 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%2D411&>

NSF/ANSI/CAN 60 Drinking Water Treatment Chemicals - Health Effects

Kemira Water Solutions, Inc.

1000 Parkwood Circle

Suite 500

Atlanta, GA 30334

United States

888-KEMIRON

863-533-5990

[Visit this company's website \(http://www.kemira.com\)](http://www.kemira.com)

Facility : # 3 Canada

Ferrous Chloride

Trade Designation

KEMIRA PIX-411

Product Function

Coagulation & Flocculation

Max Use

300mg/L

NOTE: Four digit alpha suffix in Certified trade names on product labels and/or literature may be used to designate container size.

Facility : # 4 A USA

Ferrous Chloride

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
KEMIRA PIX-411	Dechlorination	300mg/L

NOTE: Four digit alpha suffix in Certified trade names on product labels and/or literature may be used to designate container size.

Facility : Distribution Center - Buckeye, AZ

Ferrous Chloride

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
KEMIRA PIX-411	Coagulation & Flocculation	250mg/L

NOTE: Four digit alpha suffix in Certified trade names on product labels and/or literature may be used to designate container size.

Facility : Fontana, CA

Ferrous Chloride

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
KEMIRA PIX-411	Coagulation & Flocculation	300mg/L

NOTE: Four digit alpha suffix in Certified trade names on product labels and/or literature may be used to designate container size.

Facility : Mojave, CA

Ferrous Chloride

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
KEMIRA PIX-411	Coagulation & Flocculation	300mg/L
KEMIRA PIX-411H	Coagulation & Flocculation	300mg/L

NOTE: Four digit alpha suffix in Certified trade names on product labels and/or literature may be used to designate container size.

Facility : East Chicago, IN

Ferrous Chloride

Trade Designation

KEMIRA PIX-411

Product Function

Coagulation & Flocculation

Max Use

300mg/L

NOTE: Four digit alpha suffix in Certified trade names on product labels and/or literature may be used to designate container size.

Facility : Baltimore, MD

Ferrous Chloride

Trade Designation

KEMIRA PIX-411

Product Function

Coagulation & Flocculation

Max Use

300mg/L

NOTE: Four digit alpha suffix in Certified trade names on product labels and/or literature may be used to designate container size.

Facility : Distribution Center - Euclid, OH

Ferrous Chloride

Trade Designation

KEMIRA PIX-411

Product Function

Coagulation & Flocculation

Max Use

300mg/L

NOTE: Four digit alpha suffix in Certified trade names on product labels and/or literature may be used to designate container size.

Facility : Distribution Center - El Paso, TX

Ferrous Chloride

Trade Designation

KEMIRA PIX-411

Product Function

Coagulation & Flocculation

Max Use

300mg/L

NOTE: Four digit alpha suffix in Certified trade names on product labels and/or literature may be used to designate container size.

Facility : Kalama, WA

Ferrous Chloride

Trade Designation

KEMIRA PIX-411

Product Function

Coagulation & Flocculation

Max Use

300 mg/L

NOTE: Four digit alpha suffix in Certified trade names on product labels and/or literature may be used to designate container size.

Facility : Varennes, Quebec, Canada

Ferrous Chloride

Trade Designation

KEMIRA PIX-411

Product Function

Coagulation & Flocculation

Max Use

300mg/L

NOTE: Four digit alpha suffix in Certified trade names on product labels and/or literature may be used to designate container size.

Number of matching Manufacturers is 1

Number of matching Products is 12

Processing time was 1 seconds

State of Kansas
County of Douglas

Kemira Water Solutions, Inc. Affidavit of Compliance

This is to certify that the Ferrous Chloride (Kemira PIX-411) and manufactured by **Kemira Water Solutions, Inc.** meets or exceeds all specifications required by the Bay Area Chemical Consortium (BID No. 07-2023) and those specifications as established by the latest American Water Works Association standards. All products bid have been certified under ANSI/NSF Standard 60.

Deliveries will be made with Kemira trucks and dedicated trucks from Chemical Transfer.
Chemical Transfer, Stockton, CA, Mike Ellis (800) 874-7444
Our third party haulers can and will deliver Ferrous Chloride to each and every participating BACC Agency.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 20 day of February, 2023.

Kemira Water Solutions, Inc.

By: 

Name: Christina Imbrogno

Title: Commercial Support Manager

This instrument was signed and sworn to before me on 20 day of February, 2023 by Christina Imbrogno as Commercial Support Manager of Kemira Water Solutions, Inc.



Signature of Notary Public

Print Name: Brittany Ashton Jarvis

Attach Notarial Seal:

My appointment expires:

