



PROCUREMENT AND CONTRACTS

1010 NE 3RD. AVE, POMPANO BEACH, FL 33060

Mary Rivero, Director

DATE: Monday, July 21, 2025

SUBJECT: SINGLE SOURCE

BID ID: SS25-070

BID TITLE: Aquadene SK-7641

In accordance with Florida Statutes, Title XIX, Chapter 287, Section 057 (c), Commodities or contractual services available only from a single source may be excepted from the competitive-solicitation requirements. When an agency believes that commodities or contractual services are available only from a single source, the agency shall electronically post a description of the commodities or contractual services sought for a period of at least 15 business days. The description must include a request that prospective vendors provide information regarding their ability to supply the commodities or contractual services described.

This is not a Request for Proposals or Invitation to Quote, and there is no solicitation available.

The City of Pompano Beach, Florida, intends to negotiate a single-source procurement for purchasing as needed for Aquadene SK-7641. The City may contract this Procurement with Carus, LLC.

Recommending Single-Source Procurement Action With	
Company Name: Carus LLC	Contact Person: Barbie Smith
Address: 315 Fifth St., Peru, Illinois, USA 61354	Phone: 800-435-6856 / 815-223-1500

- Is the recommended company the manufacturer? Yes ☒ No ☐
- Does the manufacturer sell the item(s) through distributors? Yes ☐ No ☒
- Identify the date you need the item delivered or work performed: 8/4/2025

Prospective vendors are requested to provide a copy of this Single-Source Letter regarding their ability to supply the commodity described in this notice. **This information must be submitted through the eBid system, IonWave.**

TO THE VENDOR:

- Are you the manufacturer of this product? Yes ☐ No ☐
- Are you a manufacturer-authorized distributor? Yes ☐ No ☐

If yes, provide proof that you are authorized to sell this product and complete the following table

Description	Qty	Price	Total
		\$	\$
Total Price			\$

Delivery: _____ Days ARO (After Receipt of Order)

Address: _____

City: _____

State: _____ Zip: _____

Email: _____

Please complete the information requested in this letter and submit it through the eBid system, IonWave.

Sincerely,

Eric Seifer
Purchasing Agent



SAFETY DATA SHEET

1. Identification

Product identifier	Aquadene® SK-7641
Other means of identification	
SDS number	-
Recommended use	Aquadene® SK-7641 is an effective corrosion inhibitor and sequesterant for use in potable and industrial water systems.
Recommended restrictions	None known.
Manufacturer / Importer / Supplier / Distributor information	
Company name	CARUS CORPORATION
Address	315 Fifth Street, Peru, IL 61354, USA
Telephone	815 223-1500 - All other non-emergency inquiries about the product should be directed to the company
E-mail	salesmkt@caruscorporation.com
Website	www.caruscorporation.com
Contact person	Dr. Chithambarathanu Pillai
Emergency Telephone	For Hazardous Materials [or Dangerous Goods] Incidents ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at CHEMTREC®, USA: 001 (800) 424-9300 CHEMTREC®, Mexico (Toll-Free - must be dialed from within country): 01-800-681-9531 CHEMTREC®, Other countries: 001 (703) 527-3887

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.
OSHA defined hazards	Not classified.
Label elements	
Hazard symbol	None.
Signal word	None.
Hazard statement	The mixture does not meet the criteria for classification.
Precautionary statement	
Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC)	Not classified.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Diphosphoric acid, disodium salt	7758-16-9	1 - 3
Diphosphoric acid, tetrapotassium salt	7320-34-5	1 - 3
Triphosphoric acid, pentasodium salt	7758-29-4	1 - 3

Composition comments	All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
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4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	<p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills in original containers for re-use. For waste disposal, see section 13 of the SDS.</p>
Environmental precautions	Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling	Avoid inhalation and contact with skin and eyes. Wear appropriate personal protective equipment (See Section 8). Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	General ventilation normally adequate.
Individual protection measures, such as personal protective equipment	
Eye/face protection	If contact is likely, safety glasses with side shields are recommended.
Skin protection	
Hand protection	For prolonged or repeated skin contact use suitable protective gloves.
Other	Wear suitable protective clothing.
Respiratory protection	In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Colorless solution.
Physical state	Liquid.
Form	Liquid.
Color	Colorless.
Odor	None.
Odor threshold	Not available.
pH	1% solution = 6.4±0.5
Melting point/freezing point	< 32 °F (< 0 °C)
Initial boiling point and boiling range	213.8 °F (101 °C)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1.36±0.03 at 25°C
Solubility(ies)	
Solubility (water)	Completely soluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization will not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Strong acids. Strong bases.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	May cause discomfort if swallowed.
Inhalation	In high concentrations, vapors may be irritating to the respiratory system.
Skin contact	Prolonged or repeated skin contact may cause irritation.
Eye contact	May cause eye irritation on direct contact.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity	May cause discomfort if swallowed.
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Components	Species	Test Results
Diphosphoric acid, tetrapotassium salt (CAS 7320-34-5)		
Acute		
Dermal		
LD50	Rabbit	> 4640 mg/kg
Skin corrosion/irritation	Prolonged contact may cause dryness of the skin.	
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.	
Respiratory or skin sensitization		
Respiratory sensitization	No data available.	
Skin sensitization	Not a skin sensitizer.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
Reproductive toxicity	No data available.	
Specific target organ toxicity - single exposure	No data available.	
Specific target organ toxicity - repeated exposure	No data available.	
Aspiration hazard	Not classified.	
12. Ecological information		
Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.	
Persistence and degradability	The product is not expected to be readily biodegradable.	
Bioaccumulative potential	No data available for this product.	
Mobility in soil	Not available.	
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	
13. Disposal considerations		
Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.	
Local disposal regulations	Dispose in accordance with all applicable regulations.	
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.	
Waste from residues / unused products	Dispose of in accordance with local regulations.	
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.	
14. Transport information		
DOT	Not regulated as dangerous goods.	
IATA	Not regulated as dangerous goods.	
IMDG	Not regulated as dangerous goods.	
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.	
15. Regulatory information		
US federal regulations	This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.	
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)		
Not regulated.		
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not listed.		
CERCLA Hazardous Substance List (40 CFR 302.4)		
Triphosphoric acid, pentasodium salt (CAS 7758-29-4) LISTED		

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Triphosphoric acid, pentasodium salt (CAS 7758-29-4)

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Triphosphoric acid, pentasodium salt (CAS 7758-29-4)

US. Rhode Island RTK

Triphosphoric acid, pentasodium salt (CAS 7758-29-4)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

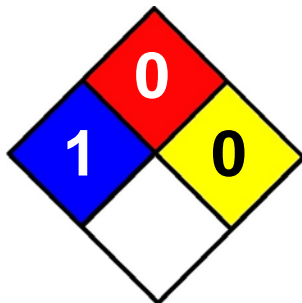
*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 12-March-2014
Revision date -
Version # 01

NFPA Ratings



References

HSDB® - Hazardous Substances Data Bank

Disclaimer

The information contained herein is accurate to the best of our knowledge. However, data, safety standards and government regulations are subject to change and, therefore, holders and users should satisfy themselves that they are aware of all current data and regulations relevant to their particular use of product. CARUS CORPORATION DISCLAIMS ALL LIABILITY FOR RELIANCE ON THE COMPLETENESS OR ACCURACY OR THE INFORMATION INCLUDED HEREIN. CARUS CORPORATION MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR USE OR PURPOSE OF THE PRODUCT DESCRIBED HEREIN. All conditions relating to storage, handling, and use of the product are beyond the control of Carus Corporation, and shall be the sole responsibility of the holder or user of the product.

Aquadene® is a registered trademark of Carus Corporation.

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July 8, 2009

Mr. Randy Brown
CITY OF POMPANO BEACH
1205 N.E. 5th Avenue
Pompano Beach, FL 33060

Water Treatment Plant Pristine Water Solutions SK-7641 Corrosion Control Inhibitor

The purpose of this letter is to transmit comments regarding the continued use of Pristine Water Solutions SK-7641 corrosion control inhibitor with respect to the City of Pompano Beach's Utilities Department (City).

Background of the LCR

The U.S. Environmental Protection Agency (USEPA), pursuant to the requirements of the 1986 Safe Drinking Water Act (SDWA), promulgated the Lead and Copper Rule (LCR) on June 7, 1991, which established an action level of 0.015 mg/L for lead and 1.3 mg/L for copper in public water supplies. The Code of Federal Regulations (CFR) Title 40 Parts 141 and 142 present the requirements for the control of lead and copper in potable water systems (PWS). The LCR is designed so that water purveyors will minimize lead and copper in drinking water as measured at the consumer tap (faucet), primarily by reducing water corrosivity. The law requires all community water systems to monitor for lead and copper at a specified number of taps within homes and/or buildings served by that water system. The number of taps monitored is dependent on size of the water system. The water systems that are subject to compliance must either demonstrate that either an "optimal" treatment technology has been implemented for the control of lead and copper, or existing concentrations of lead and copper at residential taps are below the respective action levels mandated by the LCR. The LCR also establishes treatment technique requirements including corrosion control treatment, source water treatment, lead service line replacement, and public education. These requirements are triggered if more than ten percent of selected tap water samples collected during any monitoring period exceed the lead and copper action levels.

Compliance History and Past Performance

Figure 1 depicts results of LCR tap sampling for lead concentrations for the City since October 2003, showing compliance in terms of lead 90th percentile levels. Since the LCR went into effect, the City has fed a corrosion control chemical to condition the City's drinking water distributed throughout the City's service area in an effort to reduce the overall corrosivity of the water. However, the City has historically struggled to maintain lead concentrations at consumer taps since the implementation of the LCR in 1992. Due to necessary purchasing requirements, the City has, at times, changed corrosion control chemical suppliers. As a result, the City has not maintained consistent compliance with the LCR over recent years, as different inhibitor products were fed to the system based on analogous system and specification information without formal corrosion loop testing. Consequently the City has determined appropriate inhibitor vendors predominantly on a trial-and-error basis system-wide. Of greater concern is the fact that the City's most recent non-compliance occurred in October 2003, May 2004, and October 2006, each when using different inhibitor formulations. It was not until the current SK-7641 inhibitor was consistently fed to the system that the City has maintained continued compliance with the LCR, and successfully achieved 100 percent compliance at each of the City's sampling locations in July 2008.

Percent of Homes Passing Lead and Copper Tap Study

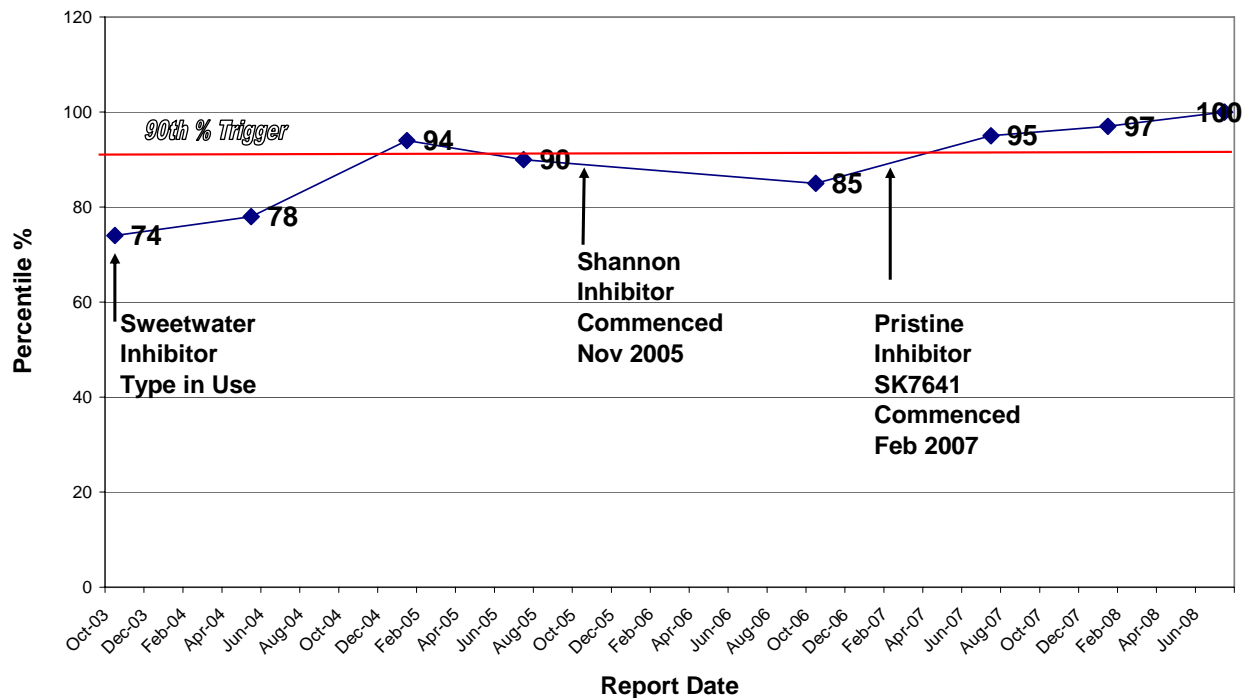


Figure 1. Lead 90th Percentile Values for LCR Samples Collected at Consumer Taps
(Source: City of Pompano Beach Water Utilities Laboratory)

Importance of Site Specific Water Quality

It is known that water qualities vary between water suppliers and with each individual water supply, be it ground water, surface water or ground water under the direct influence of surface water. Historically the City has relied upon manufacturer information, analogous system data, and a desired (generic) product specification for delineation of which specific corrosion control inhibitor will be used for any specific bidding period. A copy of the technical specification for the City's corrosion control inhibitor is attached for reference. The City diligently conducts a customer residential outreach program when a high lead or copper level is detected at any sample site. Despite the efforts of the City, there remains exposure by the City for non-compliance due to individual LCR site-specific conditions. Because corrosion inhibitors can vary between manufacturer's, many water purveyors perform site specific corrosion control evaluations designed to evaluate specific candidate inhibitors that would be suitable for a specific application.

Recommendations

The following recommendations are provided for the City's consideration:

1. Continue the use of the Pristine Water Solutions SK-7641 inhibitor for corrosion control treatment until that time approved alternative products are identified through more formal scientifically-based procedures as acceptable for bidding. The importance of using a proven product formulation that has demonstrated performance for reducing the overall corrosivity of the City's water supply is significant and should not be discounted. Consequently, the SK-7641 inhibitor product that has demonstrated effectiveness for the City's water system should be continued to be used for corrosion control treatment until that time additional qualified bidders can be identified.

2. Conduct corrosion control inhibitor qualification testing to qualify acceptable products. There may be alternative products available in the marketplace that can provide similar performance as to the current SK-7641 inhibitor; however, the performance of these alternative inhibitors remains undocumented. Since implementing generic bidding procedures has in the past placed the City at risk for non-compliance, it is recommended that inhibitor tests using corrosion test loops containing lead and copper coupons be conducted in order to verify the effectiveness of any specific inhibitor prior to being considered for bidding. In the interim, the current SK-7641 inhibitor should be continued until that time the qualification testing is completed (see item 1 above). The qualification test would be anticipated to require between eighteen and twenty-four months to complete, at a probable conceptual total cost between seventy-five thousand and one-hundred twenty-five thousand dollars.
3. Initiate vendor lot analysis prior to delivery of bulk shipments. As a condition of continued use, Pristine Water Solutions should be required to deliver confirmation of lot quality prior to City acceptance of said lot (via fax or email communication). This practice should be continued for any chemical used for corrosion control treatment to ensure quality. The City currently conducts monthly testing for several water quality parameters at several existing disinfection by-product sampling locations within the distribution system. The City should continue to sample the current water quality parameters historically sampled, which include ortho-phosphate, total phosphate, pH, alkalinity, conductivity, total hardness, calcium, nitrite, nitrate, and ammonia. If possible, sulfate should be added to this monthly sampling regiment. The City will continue to evaluate monthly test results to determine acceptable inhibitor performance during this extended period of SK-7641 usage. General system conditions such as discolored water, plumbing failure rates, customer complaints and other reports indicating system conditions will also be considered during this extended use of SK-7641. It is understood that LCR distribution system performance will be measured by required lead and copper monitoring and include the LCR-required general water quality parameters monitored in the distribution system. The City should also incorporate specific procedures to implement actual lot verification testing in future bidding procedures. These additional procedures could be delineated during manufacturer qualification testing.

Should you have any questions, or desire additional information, please contact me at your earliest convenience.

Sincerest regards,

A handwritten signature in dark ink, reading "Steven J. Duranceau". The signature is fluid and cursive, with a long horizontal line extending from the end.

Dr. Steven J. Duranceau, P.E. (Florida)
Duranceau Consulting Services, L.L.C.

General Specification for Blended Inhibitor

General Information for the Specification

The product shall be a liquid blend of sodium and potassium orthophosphate and polyphosphate ingredients. There must be at least two distinct and active phosphate ingredients intentionally combined to form a blended product, both of which are present at greater than 5 percent or greater based on dry weight. Dry weight shall be defined as the weight of ingredients other than added water and without regard to waters of hydration.

The product supplied shall be a stable food grade liquid and shall not contain any soluble mineral or organic substance in quantities capable of producing deleterious or injurious effects to the health of persons consuming water that has been properly treated with the product. Ingredients containing significant amounts of zinc or sulfite are not acceptable.

The product shall be certified to meet National Sanitary Foundation (NSF) Standard 60 Direct Additives for Drinking Water and shall be found to be acceptable for potable use in Florida by State regulatory agencies.

The product shall meet the following technical specifications:

Color:	Clear
Odor:	None
Specific Gravity:	1.37 to 1.39 @ 20 degrees Celsius
Weight per Gallon:	11.4 to 11.6 pounds per gallon
pH:	Between 5.8 - 6.5 pH units
% Equivalent H_3PO_4 :	38 percent
% PO_4 :	40 percent
% Polyphosphate:	60 percent
Water Insoluble Matter:	Not More Than 0.1% (dry weight)

Inspection and Testing Requirements

Bidder(s) may be required to furnish samples for testing to determine compliance with this specification, or otherwise prove to the satisfaction of City that the proposed material complies with the requirements set forth herein. Each bidder shall provide, if requested, three references of manufacturer's or suppliers that are currently furnishing the material specified above in these specifications.

Product stability shall be such that storage in polyethylene tanks for 4 months will not effect compliance with these product specifications. Bidder(s) shall provide the percentage of the most active ingredients for corrosion inhibition in the product. Product formulations shall remain constant throughout the contract period. The bidder will be required to provide a complete lot analysis with each product shipment during the contract period.

The City reserves the right to make inspections or tests as necessary to ensure the delivery of a satisfactory product. Any inferior product received may be rejected and the balance of the order canceled immediately.

Ratio of orthophosphate to total phosphate in the product must not vary more than five percent. The determination of the percentage of orthophosphate to total phosphate measured as orthophosphate will be by the colormetric method as described in APHA Standard Methods 18th Edition in Section 4500-P or by any other equivalent approved method before and after hydrolysis. Any product delivered that does not comply with the required range will be rejected.

The potable water distribution system performance will be measured by lead and copper analysis, distribution system analysis, and system tests for PO_4 and total phosphate. These tests will be performed by the City to determine acceptable performance. Acceptable performance can generally be defined as corrosion inhibition equal to or better than the current inhibitor as measured by the above referenced indices.

Other Requirements of the Specification

The bidder(s) shall have the technical service capability to provide consultation and to resolve problems on site at the specified water treatment plant. These services, up to 10 days per year during the contract period shall be provided at no additional cost to the City.

All bid proposals shall be accompanied by the Material Safety Data Sheets for the product in accordance with the Federal "Right-to-Know" Regulations implemented by the Occupational Safety and Health Administration (OSHA). No bids will be accepted without this required information.

The product shall be listed in the NSF/ANSI Standard 60 for Direct Additives for Drinking Water and shall be acceptable for potable use in Florida by local and state regulatory agencies. The product received by the City shall bear the NSF mark, identifying number, product trade designation and name, address and telephone number of the manufacturer or supplier. Both the manufacturer and the supplier shall be listed in the index of NSF/ANSI Standard 60 companies and shall comply with the ISO 9001, 9002 and 9003 quality systems standards throughout the contract period.



DURANCEAU CONSULTING SERVICES, LLC
3820 Lake Mirage Boulevard
Orlando, FL 32817
sduranceau@aol.com

Florida Certificate of Authorization License No. 27510

June 25, 2025

Mr. Phil Hyer
Utilities Treatment Plants Superintendent
CITY OF POMPANO BEACH
1205 N.E. 5th Avenue
Pompano Beach, FL 33060

Water Treatment System SK-7641 Corrosion Control Inhibitor Chemical

The purpose of this letter is to transmit documentation to support the continued use of the City of Pompano Beach's (City's) current corrosion control inhibitor chemical placed into service in February 2007. The City relies on the inhibitor product "Aquadene SK-7641" for effective water distribution system corrosion control as its' unique formulation has been proven to be beneficial in controlling lead and copper leaching in multi-component water distribution systems. This product was originally manufactured by Stiles-Kem (Met-Pro Corporation) under its' Aquadene Treatment Program until May 2014 when Carus Corporation obtained the rights to manufacture the Aquadene SK-7641 formulation. The Aquadene SK-7641 formulation is certified by NSF Standard 60 Direct Additives for Drinking Water, a requirement of the Florida Department of Environmental Protection as mandated by the Florida Administrative Code.

Lead and Copper Rule Improvements

The U.S. Environmental Protection Agency (USEPA), pursuant to the requirements of the 1986 Safe Drinking Water Act (SDWA), promulgated the Lead and Copper Rule (LCR) on June 7, 1991, which established an action level for lead and copper in public water supplies. The Code of Federal Regulations (CFR) Title 40 Parts 141 and 142 outlined the requirements for the control of lead and copper in potable water systems (PWS). The LCR is designed so that water purveyors will minimize lead and copper in drinking water as measured at the consumer tap (faucet), primarily by reducing water corrosivity. On October 8, 2024, the USEPA released the final LCR Improvements (LCRI) which changed the lead drinking water sampling process, lowered allowable lead limits, and established a replacement timeline for all lead service lines (if present). This final LCRI builds on the original LCR from 1991 and the LCR Revisions (LCRR) finalized in 2021. Public water systems must comply with both the LCR and applicable provisions of the LCRR until the new LCRI compliance date (November 1, 2027). The continued use of the proven inhibitor that has been in use by the City since 2007 is an important method for corrosion control, and perhaps of greater importance to the City in light of the lowered lead action level from 15 parts per billion (ppb) to 10 ppb the newest regulations will require.

Compliance History and Past Performance

The City's success with complying with the USEPA's LCR has remained intact since Aquadene SK-7641 was first used by the utility in 2007. After the LCR was originally promulgated by the USEPA and adopted into Florida's Administrative Code by the Florida Department of Environmental protection, the city failed to comply with the rule in October 2003, May 2004, and October 2006, each when using different inhibitor formulations.

It was not until the current Aquadene SK-7641 inhibitor chemical was consistently fed to the system that the City maintained continued compliance with the LCR, successfully achieving 100 percent compliance at each of the City's sampling locations in July 2008. The City has been in continual compliance with the LCR as documented in the July 2008, June 2011, July 2014, June 2017, July 2020 and most recent July 2023 regulatory triennial sampling events.

Importance of Site-Specific Water Quality

It is known that water qualities vary between water suppliers and with each individual water supply, be it ground water, surface water or ground water under the direct influence of surface water. Historically the City has relied upon manufacturer information, analogous system data, and a desired (generic) product specification for delineation of which specific corrosion control inhibitor will be used for any specific bidding period. The city diligently conducts a customer residential outreach program when a high lead or copper level is detected at any sample site. Despite the efforts of the City, there remains exposure by the City for non-compliance due to individual LCR site specific conditions, such that changes with any manufactured inhibitor chemical formulation can impact compliance. Because corrosion inhibitors can vary between manufacturers, many water purveyors prefer not to change the use of a specific formulation that is known to be suitable for application to its water system.

Recommendations


The following recommendations are provided for the City's consideration:

1. Continue the use of the Aquadene SK-7641 inhibitor chemical for corrosion control treatment until that time approved alternative products are identified through more formal scientifically-based procedures as acceptable for bidding. The importance of using a proven product formulation that has demonstrated performance for reducing the overall corrosivity of the City's water supply is significant and should not be discounted.
2. Conduct corrosion control inhibitor qualification testing to qualify acceptable products to coincide with the construction and build-out of the new membrane facility to replace the existing lime softening plant, estimated to occur within the next 5 years. There may be alternative products now available in the marketplace that can provide similar performance as to the current SK 7641 inhibitor; however, the performance of these alternative inhibitors remains undocumented. Since implementing generic bidding procedures has in the past placed the City at risk for non-compliance, it is recommended that inhibitor tests be conducted in order to verify the effectiveness of any specific inhibitor prior to being considered for bidding. In the interim, the current SK-7641 inhibitor should be continued until any qualification testing is completed (see item 1 above). The qualification test would be anticipated to require between twelve and twenty-four months to complete, at a probable conceptual total cost between one hundred twenty-five thousand and two-hundred thousand dollars.
3. Continue vendor lot analysis prior to delivery of bulk shipments. As a condition of continued use, the Manufacturer should be required to deliver confirmation of lot quality prior to City acceptance of said lot (via fax or email communication). This practice should be continued for any chemical used for corrosion control treatment to ensure quality. The City currently conducts monthly testing for several water quality parameters at several existing disinfection by-product sampling locations within the distribution system. The City should continue to sample the current water quality parameters historically sampled. The City should also continue to evaluate monthly test results to determine acceptable inhibitor performance during this extended period of SK-7641 usage. It is understood that LCR distribution system performance will be measured by

required lead and copper monitoring and include the LCR-required general water quality parameters monitored in the distribution system.

Should you have any questions or desire additional information, please contact me at your convenience.

Prepared by:

A handwritten signature in dark ink, reading "Steven J. Duranceau". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Steven J. Duranceau, P.E. (Florida)
President
Duranceau Consulting Services, LLC



Carus LLC
315 5th Street
Peru, IL 61354

January 1, 2025

Mr. Rick Johnson
City of Pompano Beach
301 N.E. 12th Street
Pompano Beach, FL 33060

Dear Mr. Johnson,

This letter is to certify that AQUADENE® SK-7641 blended phosphate is a sole sourced proprietary formulation designed to provide superior Sequestering and Corrosion Control benefits for potable water systems. AQUADENE SK-7641 is manufactured by Carus LLC at its state-of-the-art production facilities located in LaSalle, IL and Belmont, NC. AQUADENE SK-7641 is produced with high quality raw materials and specific blends of polyphosphate and orthophosphates for exceptional stability and performance. AQUADENE SK-7641 and the production facilities are registered with NSF as compliant with NSF/ANSI standard 60-61 for contact with drinking water.

Carus LLC is the leading supplier of phosphate-based Corrosion Control Programs for municipal water systems. We serve over 2,000 potable water systems and carry over 75 unique formulations and brands including the AQUADENE SK-7641 product.

Bulk customers are serviced by Carus owned and dedicated bulk tankers and drivers ensuring safe, secure, and timely delivery of our materials.

In addition to superior product quality and performance, Carus Corrosion Control Programs are supported (as needed) by the following services:

- Technical Service visits to insure proper application and compliance
- Quarterly water sample collection and analysis for corrosion control parameters
- Corrosion Coupon program including supply, installation and maintenance CC racks
- Product safety and application training for employees (for CEU credits)

We appreciate the opportunity to serve the City of Pompano Beach and look forward to continued success.

Sincerely,

A handwritten signature in blue ink that reads 'Barbie Smith'.

Barbie Smith
Inside Sales Manager



Carus LLC
315 5th Street
Peru, IL 61354

December 29, 2025

Mr. Phil Hyer
Utilities Treatment Plants Superintendent
301 NE 12th Street
Pompano Beach, FL 33060

Dear Mr. Hyer,

In support of your request for a standardized supply agreement for AQUADENE® SK-7641 blended phosphate (bulk), Carus LLC offers the following:

\$1.05/lb./ \$12.075/gal FOB Pompano Beach, FL
Price is firm for the period of January 1, 2026 – December 31, 2026

This agreement may be extended based on mutual agreement between both parties.

We appreciate the opportunity to serve the City of Pompano Beach and look forward to continued success with your water treatment program.

Sincerely,

A handwritten signature in blue ink that reads 'Barbie Smith'.

Barbie Smith
Inside Sales Manager

Event Number	SS25-070	Organization	City of Pompano Beach, FL
Event Title	Aquadene SK-7641	Workgroup	Purchasing
Event Description	In accordance with Florida Statutes, Title XI	Event Owner	Eric Seifer
Event Type	SS	Email	eric.seifer@copbfl.com
Issue Date	7/21/2025 09:13:36 PM (ET)	Phone	(954) 786-4166
Close Date	8/5/2025 02:00:00 PM (ET)	Fax	(954) 786-4168

Responding Supplier	City	State	Response Submitted	Lines Responded	Response Total
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Please note: Lines Responded and Response Total only includes responses to specification. No alternate response data is included.