



INFORMATION SHEET FOR PROCUREMENT OF ANTISCALANT

Reference No.: FNK-I/IUL/2024/127

Issued on 07th May 2024

Issued by:

Fenaka Corporation Limited

Male', Republic of Maldives

Section I: Instruction to Bidders

A. General	
1. Scope of Bid	1.1 Fenaka Corporation Limited requests quotation for procurement of Antiscalant in accordance with <i>Section III, Technical Specifications</i>
	1.2 It is in Fenaka Corporation Limited's discretion to cancel the bid invitation mentioned in 1.1 at any time.
2. Eligible Participants	2.1 Local companies registered in Maldives are eligible to participate in the tender
	2.2 Foreign companies are eligible to participate in the tender only if the total bid value is above 2,500,000 Maldivian Rufiyaa.
B. Preparation of the Bid	
3. Bid Prices	3.1 The unit price of each item and the total price shall be clearly indicated in the quotation
	3.2 All the items in a lot shall be quoted by the bidder (please refer to <i>Section III, Technical Specifications/Packing List</i> for the details of required items)
	3.3 Quotation shall separately indicate the additional charges such as freight charges and insurance.
	3.4 The bidder shall submit quotation on Doorstep delivery to Fenaka corporation Limited Head office
4. Currency	4.1 The bidder shall quote entirely in Maldivian Rufiyaa
5. Alternative Bids	5.1 Bidders can submit a maximum of two (2) options
6. Validity of Bids	6.1 Quotation shall remain valid for minimum sixty (60) days from the date of bid opening
7. Bid Security	7.1 All bids should be accompanied with a bid security of USD 1,000 (One Thousand US Dollars) or its equivalent in Maldivian Rufiyaa
	7.2 The bid security should be: <ul style="list-style-type: none"> - Original bank guarantee letter (or) - Bank guaranteed and stamped check (or) - An insurance policy from Maldives Monetary Authority (MMA) registered insurance company

	<p>7.3 Any bid not accompanied by a Bid Security shall be rejected during bid opening</p> <p>7.4 The bid security must be valid for a minimum of twenty (20) additional days beyond the validity of quotation</p>
8. Technical Compliance	<p>8.1 All relevant information including the brand shall be given to enable technical evaluation of quoted items</p> <p>8.2 Fenaka Corporation Limited will only accept items that meet OEM standards.</p> <p>8.3 Measurement methods for all the equipment, for the relevant consumables and reagents specified in the quoted items.</p> <p>8.4 Storage guidelines for all the consumables including storage temperature.</p> <p>8.5 Expiry dates of all the consumables, proving that the shelf life is not less than 6 months from the date of handover.</p> <p>8.7 Material Safety Data Sheets (MSDS)</p> <p>8.6 If the goods do not comply with the requirements mentioned in <i>Section III, Technical Specifications</i> the bid will be rejected during evaluation</p> <p>8.7 In case supplied items do not meet the required items, they will be rejected and returned</p>
9. Documents Comprising the Bid	<p>9.1 Quotation (inclusive of the delivery period and payment terms)</p> <p>9.2 The Bidder shall submit proof documents to confirm that the chemicals supplier is from an authorized dealer.</p> <p>9.3 Specification of the offered product including brand detail</p> <p>9.4 Material Safety Data Sheets (MSDS)</p> <p>9.5 Details of the company</p> <ul style="list-style-type: none"> - Company profile/background - Company registration certificate - GST registration certificate (for local bidders only) - TAX clearance report (6 months validity) - Contact details (name, designation, mobile number and e-mail address) <p>9.6 Experience letters, if available</p> <ul style="list-style-type: none"> - Letters within past five (5) years

	<ul style="list-style-type: none"> - Relevant experience letters - Letters with project name and value <p>9.7 One (1) compact disc with original bid document scanned and written</p>
10. Format of Bid	<p>10.1 The Bidder shall submit two (2) sets of the bid document (1 original and 1 copy), enclosed separately in two envelopes and sealed with company stamp</p> <p>10.2 All pages of the bid document shall be stamped and bound properly (excluding the bid security)</p>
C. Bid Submission	
11. Sealing and Marking Bid Document	<p>11.1 The bid document shall be sealed properly in an envelope clearly marked 'ORIGINAL' or 'COPY', with the name of the company and the tender reference number (FNK-I/IUL/2024/127)</p>
12. Bid Opening	<p>12.1 The bids will be opened on 14th May 2024, 11:00hrs in the presence of bidders</p> <p>12.2 Bids will be opened at: Fenaka Corporation Limited Hilaalee Magu, K. Male', Republic of Maldives</p> <p>12.3 Bids received electronically will not be accepted</p>
13. Bid Rejection	<p>13.1 Bidders that arrive after bid submission deadline shall not be able to participate in the bid</p> <p>13.2 Bidders that do not register for the tender are unable to participate in the bid opening</p> <p>13.3 Bids lacking the documents mentioned in 9. <i>Documents Comprising the Bid</i> (except 9.6 <i>Experience letters</i>) and that do not comply with 10. <i>Format of Bid</i> are subjected to be rejected</p>
D. Awarding of Contract	
14. Payment Terms	<p>14.1 An advance payment will not be released for this project</p> <p>14.2 Proposed payment terms should not be tied with submission of Bill of Lading.</p>

Section II: Evaluation Criteria

Proposal Cost: 40 points for the lowest price

- $(\text{Lowest price} / \text{proposed price}) \times 40$

Delivery: 25 points for the lowest delivery period

- $(\text{Lowest delivery period} / \text{proposed delivery period}) \times 25$
- If the delivery period indicates 'ex-stock', it shall be taken same as the party offering the longest delivery period.

Credit Period: 30 points for the maximum credit period.

- $(\text{Proposed credit period} / \text{longest credit period}) \times 30$

Experience: 5 points for the experience.

Note: Any discrepancy in technical details specified in quotation with technical specification document, the specification shall prevail.

Section III: Technical Specifications / Quantity

#	Description	Unit	Quantity
1	Antiscalant for RO Plant (pH Alkaline)	Kg	4700

Antiscalant chemicals for preventing scaling of RO membranes

Product Name and Description:

Name: Antiscalant/ Antiscaling agent

Purpose: Used to prevent scaling of RO membrane

Chemical composition:

Detailed chemical composition of the antiscalant mixture

some examples include:

Phosphonates:

- Phosphonates are effective inhibitors of calcium carbonate (CaCO₃), calcium sulfate (CaSO₄), and other scale-forming salts.
- Examples include:
 - HEDP (1-Hydroxyethylidene-1,1-Diphosphonic Acid)
 - ATMP (Amino Trimethylene Phosphonic Acid)
 - EDTMP (Ethylene Diamine Tetra (Methylene Phosphonic Acid))

Polyacrylates:

- Polyacrylates are synthetic polymers that inhibit the crystallization of scale-forming salts by sequestering metal ions.
- Examples include:
 - Polyacrylic acid and its copolymers
 - Polyaspartic acid and its derivatives

Polymaleic Acid and Its Copolymers:

- Polymaleic acid and its copolymers exhibit excellent scale inhibition properties and are effective against various scale-forming salts.
- They also have dispersant properties that help in preventing colloidal fouling.

Organophosphorus Compounds:

- These compounds contain phosphorus groups and organic functional groups, providing multifunctional inhibition against scaling and fouling.
- Examples include:
 - PBTC (2-Phosphonobutane-1,2,4-Tricarboxylic Acid)
 - BKC (Benzalkonium Chloride)

Surfactants and Dispersants:

- Surfactants and dispersants help in preventing the agglomeration and deposition of suspended particles and colloids on the membrane surface.
- Examples include:
 - Nonionic surfactants
 - Anionic surfactants
 - Polymeric dispersants

Threshold Inhibitors:

- These compounds work by forming complexes with metal ions, thereby increasing their solubility and preventing precipitation.
- Examples include:
 - Polyphosphates
 - Citric acid

Any other chemical mixture composition mixture can also be approved, after evaluation from technical experts in Fenaka.

Physical properties

Colour: amber colored/ light yellow

Odor: no odor

Solubility: miscible in water

pH: 8-9 (alkaline antiscalant)

Packaging and Storage:

Shelf life: The chemical should have a minimum of 6 months of shelf life upon delivery.

Packaging: stored in a 25 L can, made of appropriate material for chemical storage

Labelling: Chemical should be labelled appropriately and contain the following information (label in Dhivehi will be appreciated)

- Date of manufacture
- Date of expiry
- Name of chemical
- Concentration of chemical
- Manufacturer details
- Chemical handling safety details with transportation advice
- Chemical warning labels

Safety and handling

Vendors must provide the relevant MSDS with the chemicals. And the MSDS should provide important information on the chemical, including and not limited to...

<p>Chemical Identity and Information:</p>	<ul style="list-style-type: none"> - Common Names: List all common names and synonyms of the chemical. - Chemical Formula: Provide the molecular formula of mixture. - CAS Number: Include the Chemical Abstracts Service (CAS) Registry Number for chemicals. - Other Identifiers: Any other identification codes or numbers associated with the chemical.
<p>Physical and Chemical Properties:</p>	<ul style="list-style-type: none"> - Appearance: Describe the physical appearance of the chemical (e.g., liquid, clear solution).



	<ul style="list-style-type: none"> - Odor: Note any characteristic odor. - pH Value: Specify the pH range of the solution. - Melting Point and Boiling Point: Provide the temperature ranges at which the chemical changes state. - Density: Include the density of the solution in g/cm³. - Solubility: Indicate the solubility of chemicals
Handling and Storage:	<ul style="list-style-type: none"> - Handling Instructions: Provide safe handling procedures, including recommended protective equipment and precautions. - Storage Conditions: Specify proper storage conditions to maintain chemical stability and prevent hazards. - Incompatibilities: List substances or conditions that should be avoided to prevent hazardous reactions.
Exposure Controls and Personal Protection:	<ul style="list-style-type: none"> - Exposure Limits: Include recommended exposure limits (e.g., OSHA permissible exposure limits, ACGIH Threshold Limit Values). - Engineering Controls: Recommend engineering controls (e.g., ventilation systems) to minimize exposure. - Personal Protective Equipment (PPE): Specify required PPE, such as gloves, goggles, or respirators.
Accidental Release Measures:	<ul style="list-style-type: none"> - Emergency Procedures: Provide steps to be taken in the event of a spill or release, including containment and cleanup measures.

	<ul style="list-style-type: none"> - Fire safety measure: including type of fire extinguisher that can be used. - Waste Disposal: Outline proper disposal methods in compliance with applicable regulations.
Stability and Reactivity:	<ul style="list-style-type: none"> - Stability: Indicate conditions under which mixture is stable or unstable. - Reactivity: List substances or conditions that may cause hazardous reactions. - Decomposition Products: Identify potential decomposition products and associated hazards.
Toxicological Information:	<ul style="list-style-type: none"> - Routes of Exposure: Describe potential routes of exposure and associated health effects. - Toxicity Data: Include available toxicity data from studies or regulatory sources.
Disposal Considerations:	<ul style="list-style-type: none"> - Disposal Methods: Provide recommended methods for safe disposal of chemical waste. - Regulatory Requirements: Note any regulatory requirements for disposal or treatment of chemical mixture.
Transport Information:	<ul style="list-style-type: none"> - DOT Classification: Specify the Department of Transportation (DOT) classification for transportation purposes. - Packaging Requirements: Detail packaging requirements for safe transport.
Other Information:	<ul style="list-style-type: none"> - Date of Preparation: Include the date on which the MSDS was prepared or last updated.

	<p>- Contact Information: Provide contact information for the manufacturer or supplier for further inquiries or assistance.</p>
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Note: Supplier has to provide Material Safety Data Sheet (MSDS) of all the items listed