REGIONAL DISTRICT OF NANAIMO

Request for Proposals No. 22-035

Dissolved Air Thickening Polymer Supply for Greater Nanaimo Pollution Control Centre

Issue Date: May 3, 2022

CLOSING DATE AND TIME:
Proposals are requested to be received at the Closing Location on or before:
3:00 PM (15:00 hrs) Pacific Time on May 26, 2022

Regional District of Nanaimo (RDN) Contact for Questions:
Adrian Limpus
Engineering Technologist, Wastewater Services
Email: wwpolymer@rdn.bc.ca

To schedule a Jar Test, please contact:
Date: May 4 to May 23, 2022
Location: Greater Nanaimo Pollution Control Centre
Contact: Robert Skwarczynski, GNPCC Chief Operator
wwpolymer@rdn.bc.ca

Jar Testing of polymers is mandatory prior to submission

Questions should be received at least three (3) business days before the closing date.

TABLE OF CONTENTS

1. Introduction 1

1.1 Invitation to Polymer Suppliers 1
1.1 Mandatory Jar Testing 1
1.2 Term 1

2. Instructions to Proponents 1

2.1 Closing Time 1
2.2 Amendments to Proposals 1
2.3 Withdrawal of Proposals 2
2.4 Late Submissions 2
2.5 Agreement 2
2.6 Not a Tender Call 2
2.7 Contract for Services 2

3. Technical Specifications and Requirements 3

3.1 Deliverables 3
3.2 General Specifications 5

4. General RFP Terms and Conditions 6

4.1 No Contract 6
4.2 Privilege Clause 6
4.3 Acceptance and Rejection of Submissions 6
4.4 Conflict of Interest 6
4.5 Solicitation of Board Members and RDN Staff 6
4.6 Litigation Clause 6
4.7 Exclusion of Liability 7
4.8 Ownership of Proposals 7
4.9 Freedom of Information 7
4.10 No Guarantee of Volume of Work or Exclusivity of Contract 7

5. Evaluation 8

5.1 Evaluation Process 8
5.2 Mandatory Submission Requirements 9
5.3 Compliance to Technical Requirements 9
5.4 Stage 1 – Shortlisting Submissions 9
5.5 Stage 2 - Operational Trial 9
5.6 Proof of Concept 10
5.7 Product Performance 10

APPENDIX A – SUBMISSION FORM 11

APPENDIX B – SAFETY DATASHEET 16

APPENDIX C – SUPPLY AGREEMENT 29

1. Introduction

1.1 Invitation to Polymer Suppliers

The Regional District of Nanaimo in interested in procuring Dissolved Air Thickening (DAFT) polymer for use in the treatment of wastewater at Greater Nanaimo Pollution Control Centre.

Greater Nanaimo Pollution Control Centre (GNPCC) treats wastewater from Nanaimo, Lantzville, and the Snuneymuxw First Nation. GNPCC was recently upgraded from primary to secondary treatment. The primary treatment process uses sedimentation tanks. The secondary process is an activated sludge process with bioreactors and secondary clarifiers.

1.1 Mandatory Jar Testing

Jar testing of the polymers at Greater Nanaimo Pollution Centre is mandatory PRIOR to submitting a proposal.

Jar testing will be scheduled with:

Robert Skwarczynski
GNPCC Chief Operator
wwpolymer@rdn.bc.ca

1.2 Term

The contract will be for a one (1) year term with the possibility of extension for three (3) additional one (1) year terms based upon mutual and successful price negotiations between both parties confirmed in writing. Fixed pricing is required over the initial one-year term.

2. Instructions to Proponents

2.1 Closing Time

Proposals are to be received on or before the closing time of 3:00 PM (15:00 hrs), Pacific Time, May 26 2022

By Email: With “22-035 DAFT Polymer for GNPCC” as the subject line to this email address wwpolymer@rdn.bc.ca

2.2 Amendments to Proposals

Proponents may amend their proposals prior to the closing time by sending an email to wwpolymer@rdn.bc.ca

Such amendments should be signed by the authorized signatory of the Proponent.

2.3 Withdrawal of Proposals

Responses may be withdrawn before the deadline upon written notice to the RDN Contact for Questions identified above.

Revisions will be accepted providing written notice is given to the RDN Contact for Questions or designate at least twenty-four (24) hours before the closing time.

2.4 Late Submissions

Submissions received after the closing time will not be evaluated.

2.5 Agreement

The successful Proponent agrees that by submitting a Proposal, the Proponent agrees to all the terms and conditions in this Request for Proposals.

2.6 Not a Tender Call

This process is an RFP not a Tender call.

2.7 Contract for Services

The successful Proponent(s) will be expected to sign a Contract for Services. The Contract for Services must be fully executed by both the RDN and successful Proponent prior to commencement to supply and delivery of this product.

The RDN's preferred Contract for Services is provided, and includes the following:

- RDN Supply Agreement (Appendix C)
- Technical Specifications and Requirements (see Section 3.0)
- 5.7 Product Performance.
- Appendix A – Submission Form
- Addenda issued (if applicable).
- Certificates of Insurance

3. Technical Specifications and Requirements

3.1 Deliverables

1. General

(i) Products must be compatible with the RDN's existing chemical delivery and mixing equipment.

(ii) Polymers must have been jar test prior to submission at Greater Nanaimo Pollution Control Centre.

2. Product Specifications

The polymers must meet the following minimum specifications to be considered.

(i) Shelf Life: Six (6) months minimum

(ii) Low toxicity with respect to contact with skin and eyes and to accidental ingestion or inhalation.

3. Chemical Mixing and Delivery Systems

Dissolved Air Flotation Thickening (DAFT) Polymer

- Liquid Polymer compatible with the RDN's existing mixing and chemical delivery equipment (Velodyne Veloblend VM–10P-1200–Rw-3C -A2 model) (see Figure 1)
- The polymer system mixing system was designed assuming a 40% liquid emulsion polymer.
- Vendors should be able to provide liquid polymer in totes of 1000L size. 208 L (55 US gallon) drums are preferred for trials.
- Polymer is pumped from tote into the batch mixing/dosing tank.
- Dosing pumps utilize make-up water to dose batched polymer to Dissolved Air Thickening System.

4. Location

(i) Greater Nanaimo Pollution Control Centre, 4600 Hammond Bay Road, Nanaimo, BC

5. Estimated annual quantity

(i) Thickening Polymer current use approximately 1000L/30 days (12,160L annually).

6. Ordering and delivery

(i) Product ordered through email will be delivered within 10 working days of receipt of order.
(ii) Deliveries will be made between the hours of 8:30 am to 4:30 pm.
(ii) Should there be any delay in obtaining product from supplier for any reason, the Regional District reserves to secure alternative product from any source without waving or voiding the terms and condition

7. Material Disclosures

Currently, the RDN is purchasing DAFT Polymer from Waterhouse. The products purchased is Wes-Floc 7510 A. The SDS for this product is attached in Appendix B.

8. Spills

The supplier is responsible for cleaning up any spills in transport and when offloading the product at the RDN's facilities. The supplier must meet all requirements of the *BC Spill Reporting Regulation*.

9. Transport and Delivery

The supplier must comply with all Workplace Hazardous Materials Information Systems (WHMIS) in terms of chemical handling and comply with Transport of Dangerous Goods Requirements (TDG) where applicable when transporting the products to the RDN's facilities.

Figure 1 – Dissolved Air Thickening Polymer Mixing and Chemical Delivery System



3.2 General Specifications

The work must be completed in accordance with all applicable federal, provincial, and municipal and local government laws, bylaws, regulations, codes, and standards.

The supplier is responsible for the overall management and administration for supplying the product to the RDN's facilities. Management must include the provision of competent management and administrative staff, appropriate liability insurance, permits, financing and other functions related to the contract administration.

The supplier will also comply with all statutory occupational health and safety requirements under or in connection with the *Workers Compensation Act* and *Occupational Health and Safety Regulation* in performance of the Services and the Contractor represents and warrants to the Regional District that it follows all requirements of the *Workers Compensation Act*, including with respect to registration and payment of assessments. The Contractor must also always comply with all site-specific safety and personal protective equipment (PPE) requirements.

4. General RFP Terms and Conditions

4.1 No Contract

By submitting a Request for Proposal and participating in the process as outlined in this RFP, proponents expressly agree that no contract of any kind is formed until a fully executed contract is in place.

4.2 Privilege Clause

The lowest or any proposal may not necessarily be accepted.

4.3 Acceptance and Rejection of Submissions

This RFP does not commit the RDN, in any way to select a preferred Proponent, or to proceed to negotiate a contract, or to award any contract. The RDN reserves the right in its sole discretion cancel this RFP, up until award, for any reason whatsoever

The RDN may accept or waive a minor and inconsequential irregularity, or where applicable to do so, the RDN may, as a condition of acceptance of the Submission, request a Proponent to correct a minor or inconsequential irregularity with no change in the Submission.

4.4 Conflict of Interest

Proponents shall disclose in their Proposals any actual or potential Conflict of Interest and existing business relationships it may have with the RDN, its elected officials, appointed officials or employees.

4.5 Solicitation of Board Members and RDN Staff

Proponents and their agents will not contact any member of the RDN Board or RDN Staff with respect to this RFP, other than the RDN Contact named in this document.

4.6 Litigation Clause

The RDN may, in its absolute discretion, reject a Proposal submitted by Proponent, if the Proponent, or any officer or director of the Proponent is or has been engaged either directly or indirectly through another corporation in legal action against the RDN, its elected or appointed officers and employees in relation to:

(a) any other contract for works or services; or
(b) any matter arising from the RDN's exercise of its powers, duties, or functions under the Local Government Act, Community Charter or another enactment within five years of the date of this Call for Proposals.

In determining whether to reject a Proposal under this clause, the RDN will consider whether the litigation is likely to affect the Proponent's ability to work with the RDN, its consultants and representatives and whether the RDN's experience with the Proponent indicates that the RDN is likely

to incur increased staff and legal costs in the administration of this Contract if it is awarded to the Proponent.

4.7 Exclusion of Liability

Proponents are solely responsible for their own expenses in preparing and submitting a Proposal, attending the site, accommodations, meals, travel, any meetings, providing RDN staff training, and any negotiations. The RDN will not be liable to any Proponent for any claims, whether for costs, expense, losses or damages, or loss of anticipated profits, or for any other matter whatsoever, incurred by the Proponent in preparing and submitting a Proposal, or participating in negotiations for a Contract, or other activity related to or arising out of this RFP. Except as expressly and specifically permitted in these Instructions to Proponents, no Proponent shall have any claim for compensation of any kind whatsoever, as a result of participating in this RFP, and by submitting a Proposal each Proponent shall be deemed to have agreed that it has no claim.

4.8 Ownership of Proposals

All Proposals, including attachments and any documentation, submitted to and accepted by the RDN in response to this RFP become the property of the RDN.

4.9 Freedom of Information

All submissions will be held in confidence by the RDN. The RDN is bound by the Freedom of Information and Protection of Privacy Act (British Columbia) and all documents submitted to the RDN will be subject to provisions of this legislation. The successful vendor and value of the award is routinely released.

4.10 No Guarantee of Volume of Work or Exclusivity of Contract

The RDN makes no guarantee of the value or volume of work to be assigned to the successful Proponent(s). The agreement to be negotiated will not be an exclusive contract of the provision of the described Deliverables. The RDN may contract with others for goods and services the same or like the Deliverables or may obtain such goods and services internally.

5. Evaluation

5.1 Evaluation Process

All decisions on the degree to which the polymers recommended meet the stated evaluation criteria, compliance to Technical Specifications, and the scores assigned during the evaluations, are at the sole discretion of RDN.

Proposals submitted should be in enough detail to allow the RDN to determine the Proponent's qualifications and capabilities from the documents received. The selection committee, formed at the RDN's sole discretion, will score the Proposals in accordance with the criteria provided.

The RDN may evaluate proposals on a comparative basis by comparing one proponent's proposal to another proponent's proposal. The RDN reserves the right to not complete a detailed evaluation if the RDN concludes the proposal is materially incomplete or, irregular or contain any financial or commercial terms that are unacceptable to the RDN.

The selection committee may proceed with an award recommendation or the RDN may proceed to negotiate with the highest evaluated proponent with the intent of developing an agreement. If the parties after having bargained in good faith are unable to conclude a formal agreement, the RDN and the Proponent will be released without penalty or further obligations other than any surviving obligations regarding confidentiality and the RDN may, at its discretion, contact the Proponent of the next best rated Proposal and attempt to conclude a formal agreement with it, and so on until a contract is concluded or the proposal process is cancelled.

The RDN reserves the right to award the assignment in whole or in part or to add or delete any portion of the work. Throughout the evaluation process, the evaluation committee may seek additional clarification on any aspect of the Proposal to verify or clarify the information provided and conduct any background investigation and/or seek any additional information it considers necessary.

5.2 Mandatory Submission Requirements

Proposals not clearly demonstrating that they meet the following mandatory criteria will be excluded from further consideration.

Proposal must be received before the Closing Time
The Proposal must be submitted on **Appendix A – Submission Form**

5.3 Compliance to Technical Requirements

Compliance to Technical Specifications will be assessed for each Polymer recommended:

Compliance to Technical Specifications (Section 3.0) as determined by the RDN in its sole discretion	Pass/Fail
Polymers must have been Jar Tested by Supplier **PRIOR** to submission	Pass/Fail

5.4 Stage 1 – Shortlisting Submissions

Submissions will be ranked in accordance with the following criteria:

Criteria	Evaluation Points
Recommended Polymer Use in Similar Wastewater Process Applications*	35%
Experience and Qualifications	35%
Quality Control and Service Level Commitments	30%

***** *For polymers formulated for specific use at GNPCC, provide information on polymers of a similar nature that your firm has supplied to wastewater treatment plants with thickening processes like GNPCC.*

5.5 Stage 2 - Operational Trial

The RDN will shortlist up to four Submissions which received the highest evaluation score in the Stage 1 process.

Shortlisted Proponents will be invited to participate in an operational trial in which recommended polymers will be used in the DAFT wastewater treatment process at GNPCC for a period of up to three-weeks in length.

The RDN will purchase the chemicals needed for this trial. However, suppliers will provide only the chemicals needed for the trial. Suppliers will also permit the RDN to return unused chemical at the end of the trial period without a restocking fee.

Polymers will be ranked according to the following criteria based on the operational trial results:

Criteria	Evaluation Points
Financial Criteria (Estimated based on Pricing & Dosing)	40%
Technical Criteria • Solids Removal • Floc Formation • Underflow Clarity • Wastewater Process Impact	60%

5.6 Proof of Concept

Polymers selected may be tested for an additional 2 weeks following both stages of the evaluation process to optimize the polymers tested operationally to meet operational requirements. In the event, testing shows the product as failing to meet operational requirements, and the Supplier is unable to resolve the issue to the RDN's satisfaction, the Regional District may move on to the next ranked Proponent without further liability, damage, or cost to the RDN.

5.7 Product Performance

(i) If during the Contract term, the polymer is found is found to be losing its' effectiveness and/or product dosage increases to a level that is unacceptable to the Regional District, the Supplier will make every effort to improve such performance within 10 working days of notification.

(ii) Any product substitution suggested by the incumbent supplier will perform equal to and/or better than the initial full-scale evaluation or baseline performance. Additionally, any product substitution will be formally pre-approved by the Regional District and supplied and the unit price in effect at the time of contract issuance.

(iii) If the substitute cannot be supplied at the same cost or a more effective polymer cannot be found, the Regional District will have the right to contact other Suppliers to supply effective polymer.

APPENDIX B – SAFETY DATASHEET

Safety Data Sheet

Wes-Floc 7510 A

Date of Issue: March 1 2021 | Version 1.1 | Date of Last Revision: March 1 2021

1. Identification

Product identifier

Product name : **Wes-Floc 7510A**

Alternate names : None.

Other means of identification

Chemical name : Cationic polyacrylamide co-polymer.

Chemical family : Organic polymer.

Recommended use of the chemical and restrictions on use

Recommended use : Chemical flocculant for municipal and industrial applications.

Uses advised against : No known restrictions against use.

Initial supplier identifier

Company : Waterhouse Environmental Services Corporation,
400 - 601 West Broadway,
Vancouver,
British Columbia,
V5Z 4C2,
CANADA.

Telephone : +1 888 921 3317.

Email : information@waterhousechemicals.com.

Emergency telephone number

CANUTEC : +1 613 996 6666.

2. Hazard Identification

Classification of the product

Hazard class	Category	Hazard statement
Skin irritation	Category 2	H 315 – Causes skin irritation.
Eye irritation	Category 2A	H 319 – Causes serious eye irritation.
Acute aquatic toxicity	Category 3	H 402 – Harmful to aquatic life.

Label elements

Hazard symbols :



Signal word : **Warning.**

Precautionary statements :

Prevention

P 243	Take precautionary measures against static discharge.
P 264	Wash with plenty of water and soap thoroughly after handling.
P 273	Avoid release to the environment.
P 280	Wear protective gloves.

Response

P301+P330+P331+P313	IF SWALLOWED : Rinse mouth. Do NOT induce vomiting. Get medical attention.
P302+P362+P352+P314	IF ON SKIN : Take off contaminated clothing. Wash with plenty of water and soap. Get medical attention if you feel unwell.
P 304 + P 340 + P 313	IF INHALED : Remove person to fresh air and keep comfortable for breathing. Get medical attention.
P305+P351+P338+P314	IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get medical attention if you feel unwell.

Storage

P 232	Protect from moisture.
P 235	Keep cool.
P 402	Store in a dry place.
P 405 + P 233	Store locked up. Keep container tightly closed.

Disposal

P 501	Dispose of contents and containers in accordance with local, regional, national, and international regulation.

Hazards not otherwise classified (HNOC)

Spills of this product will produce extremely slippery surfaces.

Other non-GHS classifications

HMIS Rating

Health	1
Flammability	1
Reactivity	0
PPE	B

NFPA Rating

Health	1
Flammability	1
Reactivity	0
Special	

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Concentration. (W/W%)	CAS Number	Chemical Identity
20 – 45%	64742-47-8	Distillates (petroleum), hydrotreated light
< 5%	69011-36-5	Poly(oxy-1,2-ethanediyl), α-tridecyl-ω-hydroxy-, branched

4. First-Aid Measures

Description of necessary first-aid measures

Ingestion : Rinse mouth and drink plenty of water. Check breathing and pulse. Place the casualty in the recovery position, cover, and keep warm. Loosen tight clothing such as collar, tie, belt, or waistband. Get medical attention, or call Poison Control if necessary.
Do NOT induce vomiting or give anything by mouth if the casualty is unconscious or having convulsions.

Skin contact : Remove any contaminated clothing and shoes. Wash exposed skin thoroughly with soap and water 15 – 20 minutes. Get medical attention if irritation develops and persists.

Inhalation : If breathing difficulties occur after inhalation, keep the patient calm, remove to fresh air and seek medical attention.

Eye contact : Flush with water for at least 15 minutes with eyelids held open. Lift upper and lower eye lids to ensure all chemical is completely removed. Consult an eye specialist if eye irritation persists.

Most important symptoms and effects

Symptoms include possible eye and skin irritation and central nervous system depression.
Other important symptoms and effects are described in Section 2 : “Hazard Identification” and Section 11 : “Toxicological Information”. Further important symptoms are not known.

Hazards : No hazard is expected under intended use and appropriate handling.

Indication of any immediate medical attention and special treatment needed
Treat according to individual symptoms and response to, and location of, exposure.
There are no known specific antidotes or contraindications.

5. Fire-Fighting Measures

Extinguishing media
Extinguish fire using dry powder, foam, carbon dioxide or water spray.
If water is used, restrict pedestrian and vehicular traffic in the area because this product is extremely slippery.

Specific hazards arising from the product
Fire-fighting hazards : Nitrogen oxides (NO_X), carbon oxides (CO_X), and hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

Other hazards : Spilled product is slippery underfoot. Very slippery when wet.

Special protective actions for fire-fighters
Wear a self-contained breathing apparatus.

Further information
Evacuate non-emergency personnel from the area.
Dispose of contaminated extinguishing water in accordance with local, regional, national, and international regulations.

6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures
Personal precautions : Stay upwind of this product to avoid inhalation.
Avoid walking through any spilt product or areas where slip hazard may exist; this product becomes extremely slippery when wetted.
Handle in accordance with good industrial hygiene and safety practices.

Protective equipment : Wear adequate personal protective equipment (See Section 8 : “Exposure Controls/Personal Protection”).

Emergency procedures : Prevent further leakage or spillage if safe to do so.
Keep people away from spill/leak until clean-up is completed.

Environmental precautions
Do not flush into drains, surface water, or groundwater.
Contain contaminated water/firefighting water.

Methods and material for containment and cleaning up
Small spills : Do not flush with water as it will cause a slip hazard.
Soak up spill using an inert absorbent material and by sweeping or vacuum.
Keep the product in a suitable, closed container for disposal.

Large spills : Do not flush with water as it will cause a slip hazard.
Secure a dam and pump off or scoop away product. Dispose of the residue.

Residue : Soak up any residue using an inert absorbent material
After clean-up, flush away any trace material with water.
Use a common salt, such as sodium chloride, to aid in the removal of residue.

7. Handling and Storage

Precautions for safe handling

General precautions : Avoid contact with skin and eyes.
Avoid application of product where slip hazard may exist.
When using the product, do not eat, drink, smoke, or use tobacco.
Wash hands before breaks and at the end of the workday.

Fire and explosion precautions : Take precautionary measures against static discharges.

Conditions for safe storage including any incompatibilities

Store closed in the original container in a cool, dry place.
Avoid temperature extremes.
Keep temperature between 5° C and 30° C.
Store away from strong oxidizing agents and reactive chemicals.

8. Exposure Controls / Personal Protection

Control parameters

Any component not listed has no established occupational exposure limits.

Component Name	Regulation	Exposure Limit
Distillates (petroleum), hydrotreated light	OSHA (8-hour TWA)	400 mg/m³
	OSHA (15 minutes)	100 mg/m³
	ACGIH (8-hour TWA)	200 mg/m³
	NIOSH (10-hour TWA)	Not established.

Appropriate engineering controls

Ensure adequate ventilation in confined spaces or in the presence of misting.
Natural ventilation is adequate in the absence of any misting.

Individual protection measures

Eye and face protection : Do not wear contact lenses.
Use splash resistant chemical goggles or face shield.
Maintain an eye wash fountain in the handling area.

Skin protection : Wear chemical resistant PVC or other protective material gloves and boots.
If splashing or repeated contact with the product is likely, wear a chemical resistant apron or protective suit.

Respiratory protection : No personal protective equipment normally required.
If working concentrations are more than 10 mg/m^3, then an NIOSH-certified (or equivalent) organic vapour/particulate respirator is recommended.

General safety and hygiene measures : Handle in accordance with good industrial hygiene.
Ensure adequate ventilation.
Wearing of closed work clothes is recommended.
Wear protective clothing as necessary to minimize contact with the product.
When using the product, do not eat, drink, smoke, or use tobacco.
Wash hands before breaks and at the end of the workday.

9. Physical and Chemical Properties

All properties listed below are at 20° C and 101.3 kPa unless otherwise stated

Appearance	Milky emulsion.
Odour	Aliphatic.
Odour threshold	No data available.
pH	4 – 6 at 5 g/l
Melting point/freezing point	< 5° C
Initial boiling point and boiling range	> 100° C
Flash point	> 93° C (closed cup)
Evaporation rate	No data available.
Flammability (solid, gas)	Not highly flammable.
Lower explosive limit	Not applicable. Product is not a highly flammable liquid.
Upper explosive limit	Not applicable. Product is not a highly flammable liquid.
Vapour pressure	2.3 kPa @ 20^0 C.
Vapour density	0.804 g/l @ 20^0 C.
Bulk density	1.03 g/cm^3
Solubility	Dispersible in water. Low solubility in water.
Partition coefficient (n-octanol/water)	< 0
Auto-ignition temperature	No data available.
Decomposition temperature	> 150° C.
Viscosity - Bulk - Kinematic	20.5 mm^2/s @ 40 C.
Viscosity, Bulk – Dynamic	1200 mPa.s (cps)
Viscosity, Dilute (5.0 g/l)	1300 mPa.s (cps)
Explosive properties	No data available.
Oxidizing properties	No data available.
Average non-volatile solids (%)	47.0

10. Stability and Reactivity

Reactivity
No hazardous reactions are anticipated if the product is stored and handled as indicated.
No known corrosive effect on metals.
Not fire-propagating.

Chemical stability
Stable at normal temperatures and pressure.
Stable if stored and handled as indicated.

Possibility of hazardous reactions
This product does not undergo hazardous polymerization.
Oxidizing agents may cause exothermic reactions.

Conditions to avoid
Avoid extreme temperatures, frost, freezing, direct sunlight and sources of ignition.

Incompatible materials
Incompatible with strong oxidizing agents and reactive chemicals.

Hazardous decomposition products
Thermal decomposition may produce nitrogen oxides (NO_X), carbon oxides (CO_X), ammonia and hydrogen cyanide (hydrocyanic acid) in an oxygen deficient atmosphere.
No hazardous decomposition products are expected under normal usage, if stored and handled as indicated.

11. Toxicological Information

Information on acute toxicological effects
Wes-Floc 7510 A

Acute oral toxicity :

Value :	LD_{50}/oral/rat > 5000 mg/kg.
Method :	Derived from the components of the product.
Assessment :	**No known acute oral effects.**

Acute dermal toxicity :

Value :	LD_{50}/dermal/rat > 5000 mg/kg
Method :	OECD Guideline 402.
Assessment :	**No known acute dermal effects.**

Acute inhalation toxicity :

Value :	No data available.

Skin irritation/corrosion :

Species :	Rabbit.
Method :	OECD Guideline 404.
Assessment :	**Irritating to skin.**

Serious eye damage/irritation :

Species :	Rabbit.
Method :	OECD Guideline 405.
Assessment :	**Irritating to eyes.**

Respiratory or skin sensitisation :

Method :	Derived from the components of the product.
Assessment :	**No suspicion of skin or respiratory sensitisation.**

Aspiration hazard :

Method :	Derived from the properties of the product.
Assessment :	**No suspicion of aspiration hazard.**

Single target organ toxicity – single exposure :

Method :	Derived from the components of the product.
Assessment :	**None known**

Information on chronic toxicological effects
Wes-Floc 7510 A

Repeated dose toxicity :

Method :	Derived from the components of the product.
Assessment :	**No suspicion of adverse health effects from repeated dose.**

Germ cell mutagenicity :

Method :	OECD Guideline 476.
Assessment :	**Not mutagenic.**

Carcinogenicity :

Method :	Derived from the components of the product.
Assessment :	**No suspicion of being carcinogenic.**

Reproductive toxicity :

Method :	Derived from the components of the product.
Assessment :	**No suspicion of being toxic for reproduction.**

Teratogenicity :

Method :	Derived from the components of the product.
Assessment :	**No suspicion of being toxic for reproduction.**

Single target organ toxicity – repeated exposure :

Method :	Derived from the components of the product.
Assessment :	**None known.**

Primary routes of exposure
Primary routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact.
Routes for entry of gases include inhalation and eye contact.
Skin contact may be a route of entry for liquefied gases.

Symptoms of exposure
Symptoms include possible eye and skin irritation and central nervous system depression.
Other symptoms and effects are described in this section and Section 2 : “Hazard Identification”.
Further symptoms are not known.

12. Ecological Information

Information on acute ecological effects
Wes-Floc 7510 A

Acute toxicity to fish :

Value :	LC_{50}/*Oncorhynchus mykiss*/96 hours = 10 – 100 mg/l
Method :	OECD Guideline 203.
Assessment :	**Harmful to fish.**

Acute toxicity to invertebrates :

Value :	EC_{50}/*Daphnia magnia*/48 hours = 10 – 100 mg/l
Method :	OECD Guideline 202.
Assessment :	**Harmful to invertebrates.**

Acute toxicity to algae :

Value :	No data available. Algal inhibition tests are not appropriate. The flocculation characteristics of the product interfere directly in the test medium preventing homogenous distribution which invalidates the test.

Acute toxicity to aquatic plants :

Value :	No data available.

Information on chronic ecological effects

Wes-Floc 7510 A

Chronic toxicity to fish :

Value :	No data available.

Chronic toxicity to invertebrates :

Value :	No data available.

Chronic toxicity to algae :

Value :	No data available.

Chronic toxicity to aquatic plants :

Value :	No data available.

Persistence and degradability

Wes-Floc 7510 A

Degradation :	Readily biodegradable.
Hydrolysis :	At pH's > 6, the polymer degrades more than 70% in 28 days. The hydrolysis products are not harmful to aquatic organisms.

Distillates (petroleum), hydrotreated light

Degradation :	Readily biodegradable (67.8% in 28 days).
Hydrolysis :	Does not hydrolyse.

Poly(oxy-1,2-ethanediyl), α-tridecyl-ω-hydroxy-, branched

Degradation :	Readily biodegradable (> 60% in 28 days).
Hydrolysis :	Does not hydrolyse.

Bioaccumulative potential

Wes-Floc 7510 A

Partition coefficient (Log power) :	< 0

Distillates (petroleum), hydrotreated light

Partition coefficient (Log power) :	3 – 6

Poly(oxy-1,2-ethanediyl), α-tridecyl-ω-hydroxy-, branched

Partition coefficient (Log power) :	> 3

Mobility in soil [Product as Supplied.]

Wes-Floc 7510 A

Adsorption to solid soil phase is expected due the properties of the product.

Other adverse effects
No other adverse effects are known.

Summary of ecological information
This product is toxic to fish and harmful to invertebrates and some algae.
The acute effects are due to the cationic charge of the polymer, but irreversible adsorption onto suspended and dissolved matter mitigates aquatic toxicity by a factor of 10 – 100 with 5 – 10 mg/l DOC in the water according to the US EPA "Dirty Water Test."
The product is not biologically available so accumulation in organisms is not to be expected.
There is currently no data available on the chronic effects of this product.
While it is not expected that this product has significant ecological effects, it is recommended this product not be discharged into the environment.

13. Disposal Considerations

Disposal methods
Dispose of in accordance with local, regional, national, and international regulations.
Containers that cannot be cleaned should be disposed of in the same manner as the contents.
Crushing or puncturing the contaminated containers is recommended to prevent the unauthorized use of it.
Uncontaminated containers can be reused.
Do not dispose of into drains, surface water, or groundwater.

14. Transport Information

Land transport (TDG)
Not classified as a dangerous good under transport regulations.

Sea transport (IMDG)
Not classified as a dangerous good under transport regulations.

Air transport (IATA)
Not classified as a dangerous good under transport regulations.

15. Regulatory Information

Safety, health, and environmental regulations specific for the product

Domestic Substances List (DSL) :	All components of this product are either listed on the inventory or are exempt from listing.
Ingredient Disclosure List (IDL) :	No components are listed on the WHMIS ingredient disclosure list.

16. Other Information

SDS prepared by :
Waterhouse Environmental Services Corporations.

Version number :
1.1

Date of issue :
March 1 2021

Date of last revision :
March 1 2021

Notice to readers :
This information is supplied in accordance with Canada's Hazardous Products Regulations (HPR) SOR/2015-17 and the U.S. Hazard Communication Standard (HCS).
The information provided in this Safety Data Sheet is correct to the best of our knowledge at the date of publication, but we cannot guarantee that the hazards listed are the only hazards that exist.
No warranty, expressed or implied, regarding the accuracy of this data, the hazards connected with the use of the product, or the results to be obtained from the use thereof is made, and Waterhouse Environmental Services Corporation assumes no responsibility.

END OF DATA SHEET

APPENDIX C – SUPPLY AGREEMENT

BETWEEN: (the "Supply Contractor")

AND: **Regional District of Nanaimo** (the "RDN")
6300 Hammond Bay Road,
Nanaimo, BC, Canada
V9T 6N2

THIS AGREEMENT WITNESSES that the Supply Contractor and the RDN agree as follows:

1. The Supply Contractor shall provide all labour, equipment, and materials required to supply and deliver the Product ("DAFT Polymer") to Greater Nanaimo Pollution Control Centre located at 4600 Hammond Bay Road, Nanaimo, BC, Canada within the required time and delivery location, as identified the Contract Documents.

2. Shipping Terms: Freight on Board (FOB) destination, freight prepaid and allowed.

3. The RDN shall pay the Supply Contractor the Contract Price, as required by the Contract Documents.

4. The Contract Price shall be the sum in Canadian Dollars of the following:

   (a) the Proposal Price, $ and

   The Contract Price shall be the entire compensation owing to the Supply Contractor by the RDN for the Product and shall cover and include necessary costs including but not limited to all supervision, labour, materials, Supply Contractor's Plant and Equipment, overhead, profit, financing costs, duty, shipping charges, fabrication and finishing, conveyance and delivery, packing, crating, freight, cartage, off-loading, drafting charges, tariffs, warranty and all other costs and expenses whatsoever incurred in performing the Contract.

   Except for the amounts which the RDN in good faith is disputing and except for any set off which the RDN may claim and except for invoices (or portions of invoices) in respect of which the RDN has requested and not received supporting evidence, the RDN shall pay invoices submitted to it for the Services within 30 days' receipt thereof.

5. The term of a Contract shall commence on _____, and expires _____, unless terminated, cancelled, or extended.

   The contract will be for a one (1) year term with the possibility of extension for three (3) additional one (1) year terms based upon mutual and successful price negotiations

between both parties confirmed in writing. Fixed pricing is required over the initial one-year term.

6. The Supply Contractor shall supply and deliver the Product to the Delivery Point no later than 10 working days from receipt of order. Deliveries will be made between the hours of 8:30 am to 4:00 pm. Should there be any delay in obtaining Product, the RDN reserves to secure alternative product from any source without waving or voiding the terms and conditions.

7. The Contract Documents shall form a part of this Agreement as though recited in full.

8. The Contract supersedes all prior negotiations, representations, or agreements, whether written or oral and is the entire agreement between the RDN and the Supply Contractor with respect to the subject matter of this Agreement.

9. The Supply Contractor shall not assign the Contract, or any portion of the Contract, or any payments due or to become due under the Contract, without the express written consent of the RDN.

10. No action or failure to act by the RDN or an authorized representative of the RDN shall constitute a waiver of any right or duty afforded any of them under the Contract or constitute an approval or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

11. This Agreement shall enure to the benefit of and be binding upon the RDN and the Supply Contractor and their respective heirs, executors, legal representatives, successors and permitted assigns. In the event of more than one person being the Supply Contractor, the grants, covenants, provisos and claims, rights, powers, privileges, and liabilities shall be construed and held to be several as well as joint.

12. Time shall be of the essence of this Agreement.

13. This Agreement may be executed in any number of counterparts, each of which will be deemed to be an original and all of which taken together will be deemed to constitute one and the same instrument. Delivery by electronic transmission in portable document format (PDF) of an executed counterpart of this Agreement is as effective as delivery of an originally executed counterpart of this Agreement.

14. The Supply Contractor will comply with all applicable federal, provincial, and municipal and local government laws, bylaws, regulations, codes, and standards.

15. The Supply Contractor will comply with all Workplace Hazardous Materials Information Systems (WHMIS) in terms of chemical handling and comply with

Transport of Dangerous Goods Requirements (TDG) where applicable when transporting and delivering Product to the RDN's facilities.

16. The Supply Contractor is responsible for cleaning up any spills in transport and when offloading Product at the RDN's facilities. The Supply Contractor must meet all requirements of the *BC Spill Reporting Regulation* in the event of a spill.

17. The Supply Contractor will ensure that the Product meets the requirements identified in Section 3.0 Technical Requirements of the *GNPCC DAFT Polymer Request for Proposals issued in May 2022* (attached as Appendix A).

18. (i) If during the Contract term, the Product is found to be losing its' effectiveness and/or product dosage increases to a level that is unacceptable to the RDN, the Supply Contractor will make every effort to improve such performance within 14 days of notification.

(ii) Any Product substitution suggested by the incumbent supplier will perform equal to and/or better than the initial full-scale evaluation or baseline performance. Additionally, any product substitution will be formally pre-approved by the RDN and supplied and the unit price in effect at the time of contract issuance.

(iii) If the substitute cannot be supplied at the same cost or a more effective Product cannot be found, the RDN have the right to contact other vendors to supply effective Product.

17. The Supply Contractor shall arrange commercial general liability coverage in an amount not less than one million dollars ($1,000,000) per occurrence for bodily injury, death, or property damage, including coverage for loss of use. Such policy shall include the Regional District as an additional insured.

18. This agreement may be cancelled by either party for any reason without cause or penalty upon sixty (60) calendar day's written notice.

If this option is exercised, the RDN will be under no further obligation to the Supply Contractor, except to pay the Supply Contractor such amount as the Supply Contractor may be entitled to receive for services properly performed and provided to the date notice is given to the Supply Contractor.

IN WITNESS WHEREOF the parties hereto have executed this Agreement as follows:

REGIONAL DISTRICT OF NANAIMO
by its authorized signatory on _____ day of _____, 2022 (the date of Agreement):

SIGNED on behalf of the **Regional District of Nanaimo** by:

Signature: _____

Name: _____

Title: _____

Signature: _____

Name: _____

Title: _____

Supply Contractor

by its authorized signatory on _____ day of _____, 2022:

SIGNED on behalf of the Supply Contractor by:

Signature: _____

Name: _____

Title: _____