SNF POLYDYNE

www.polydyneinc.com

LETTER OF TRANSMITTAL

January 6, 2020

Ms. Tracy Vera, Buyer

RE: Request for Proposals 19-74 for Dewatering Polymer Supply

Dear Ms. Vera,

On behalf for SNF, Inc. and Polydyne Inc., I am pleased to submit our response to the subject bid. SNF, Inc. is a global leader in the manufacture of water soluble polymers. Its subsidiary, Polydyne Inc., is the largest supplier of polymers to the municipal water and wastewater treatment market.

I, Boyd Stanley, am the Vice-President of Polydyne Inc., and the person responsible for this bid response. If there are questions regarding this response, my contact information is as follows: Mailing Address: 1 Chemical Plant Road, Riceboro, GA 31323 Phone: (912) 880-2035 Fax: (912) 880-2078 and E-mail: PolyBidDpt@snfhc.com.

I am authorized to contractually obligate Polydyne Inc., along with the several other members listed in the attached General Information sheet and Corporate Resolution.

It is the intention of Polydyne Inc. to adhere to the RFP provisions without modification. This proposal is considered firm for one hundred eighty (180) days after the due date for receipt of proposals or receipt of the last best and final offer submitted.

Polydyne Inc. can accept the City's contract/purchase order terms and conditions and insurance requirements.

Best Regards,

Boyd Stanley
Vice-President

Polydyne Inc.
General Information

Federal Identification No.	**34-1810283**
State of Incorporation:	**Delaware**
Date of Incorporation:	**August 21, 1995**
Administrative Offices:	**P.O. Box 279, 1 Chemical Plant Road Riceboro, GA 31323**
Payment Address:	**P.O. Box 404642 Atlanta, GA 30384-4642**

Board of Directors

René Pich, Pascal Remy, John Pittman, Peter Nichols, René Hund

Officers

President	**John Pittman**
Secretary	**Christopher Gannon**
Vice President Finance, Assistant Secretary, Treasurer	**Mark Schlag**
Vice President	**Boyd Stanley**
Vice President	**Ken Luke**

*Authorized Signers-Non Officers

Bobby Wise	**Controller**

Ownership Disclosure

Corporation	Percent Ownership	Owner
Polydyne Inc.	**100**	**SNF Holding Company**
SNF Holding Company	**100**	**SPCM SA**
SPCM SA	**100**	**Mr. René PICH holds and controls 100% of the shares of SPCM SA, a company duly organized and existing under the laws of France, whose registered office is in ZAC de Milieux, Andrézieux, (42163), FRANCE, registered under the number 312 327 737 in the Commercial Registry of the town of Saint-Etienne (42000), FRANCE.**

Rev. 1/2018

WRITTEN CONSENT OF THE BOARD OF DIRECTORS
OF POLYDYNE INC.

The undersigned, being all of the directors of Polydyne, Inc., a Delaware Corporation (the "Corporation"), hereby approve and adopt the following resolutions by written consent:

Municipal Contract Authorization

RESOLVED, that Boyd Stanley, Rene Pich, Peter Nichols, John Pittman, Mark Schlag, Bobby Wise and Ken Luke be and hereby are authorized, empowered and directed to bid, in the name of and on behalf of the Corporation, upon such municipal projects as he may deem appropriate; and further

RESOLVED, that Boyd Stanley, Rene Pich, Peter Nichols, James R. Carlson, Mark Schlag, Bobby Wise and Ken Luke be and hereby are authorized and empowered to execute and deliver, in the name of and on behalf of the Corporation, all documents, instruments, certificate, agreements and papers as he may deem advisable or necessary or proper to effect the Corporation's municipal bids or the transactions contemplated thereby; and further

RESOLVED, that the President, Senior Vice President, Vice President, Secretary, Treasurer, and Assistant Secretary or Director of the Corporation be and hereby is authorized and empowered, and to the extent necessary or advisable, directed, to attest the execution of any document executed pursuant to these resolutions, and to affix the seal of the Corporation thereto, and to certify under seal to any municipality the adoption of these resolutions; and further

RESOLVED, that the authorizations granted under these resolutions shall expire on January 09, 2020.

IN WITNESS WHEREOF, the undersigned, constituting all of the directors of the Corporation, have executed this Consent the 9th day of January, 2018.

Rene Pich

Peter Nichols

Rene Hund

Pascal Remy

John Pittman

I attest to the authenticity of this copy of the Resolution of the Board of Directors. This resolution is still valid and in effect as of date signed.

Mark Schlag, Assistant-Secretary
Date: 01/06/20

ANALYTICAL PROCEDURES

1- Bulk Viscosity (3 pages)
2- Non Volatile Solids (2 pages)
3- UL Brookfield Viscosity (4 pages)
4- Residual Monomer (10 pages)
5- Active Content (5 pages)

BULK VISCOSITY

Issue	Application date	Issued by	Controlled by	Approved by
03	01/03/13	**M. Huart**	**L. Avond**	**R. Hund**
Remarks:	Paragrah 3 modification following BVQI audit.			

1- PRINCIPLE

The purpose of this test is to measure the thickness of the emulsion itself.

2- EQUIPMENT

- Brookfield viscosimeter model LVT with its LV spindles,
- 250 ml bottle,
- Thermometer.

3- 3- PROCEDURE

- Put 250 ml of the emulsion in a clean and dry 250 ml bottle.
- Homogenize the sample prior to testing.
- Measure the viscosity with the Brookfield viscosimeter using the suitable spindle at 30 rpm after checking that the temperature is between 23 - 25° C.
- Let turn the spindle till the index is stable on the graduation (about 30 seconds).

Viscosity (in cps) = read value x factor

30 tr/min	LV1	LV2	LV3
Factor	x 2	x 10	x 40

Choose the module which allows a direct reading between 20 and 80.

Items to Note for Use of Procedure:

Section	Note
3- Procedure	This procedure allows for the use of LV1, LV2, or LV3. Unless otherwise noted on a product specification, use LV3.

Brookfield LVT / LVF Model Viscometer: Spindle / Speed Charts

Table 1. Spindle/Speed Factors

LV1		LV2		LV3		LV4	
Speed (rpm)	Factor	Speed (rpm)	Factor	Speed (rpm)	Factor	Speed (rpm)	Factor
0.3	2,000	0.3	1,000	0.3	4,000	0.3	20,000
0.6	100	0.6	500	0.6	2,000	0.6	10,000
1.5	40	1.5	200	1.5	800	1.5	4,000
3	20	3	100	3	400	3	2,000
6	10	6	50	6	200	6	1,000
12	5	12	25	12	100	12	500
30	2	30	10	30	40	30	200
60	1	60	5	60	20	60	100

Table 2. Shear Rate Factors (for use with QCM-1410A)

Speed (rpm)	Shear Rate (sec^{-1})	Factor
60	73.38	0.1
30	36.69	0.2
12	14.68	0.5
6	7.34	1
3	3.67	2
1.5	1.83	4
0.6	0.73	10
0.3	0.37	20

SNF	PROCEDURE	N° : QC-1050 A Rev : 05 Page : 1/2
	DETERMINATION OF THE PERCENTAGE OF NON VOLATILE SOLID	

Issue	Application date	Issued by	Controlled by	Approved by
05	11/10/19	**M. Huart**	**L. Avond**	**R. Hund**
Remarks: Up-dating.				

1- PRINCIPLE

All volatiles compouds are removed from the sample by heating the product in a desiccator, the sample temperature being close to 100-110° C.
The conditions are established to obtain similar value for all equipment.

2- WITH AN INFRA-RED DESSICATOR

2.1- EQUIPMENT

- IR Desiccator (Mettler-Toledo).
- Aluminum dish (ϕ = 9.5cm ; H = 1 cm).
- 850 µm sieved sand (stored in an oven between 60 and 110°C).
- Fiberglass disc ϕ = 90 mm (Ref. Mettler 96108751).

2.2- PROCEDURE

Choose the analysis conditions and the type of desiccator according to the DOC N° QC-0007 A:

- Depending on the case, use an empty dish, with sand or disc.
- Add the mass of sample, taking care to spread it into small droplets over the entire surface of the dish.
- The percentage of non-volatile solid is directly given on the screen when the measurement is finished.
- Remark:
- The non volatiles solid is given by:

$$\text{SOLID } \% = \frac{W_d}{W_s} \times 100$$

with : W_d = dry weight (in g)
Ws = sample weight (in g)

3- WITH AN HALOGEN DESSICATOR

3.1- EQUIPMENT

- Halogen desiccator (Mettler- Toledo).
- Aluminum dish (ϕ = 9.5cm ; H = 1 cm).
- Sifted 850 µm sand (stored in an oven between 60 and 110°C).
- Fiberglass disc ϕ = 90 mm (Ref. Mettler 96108751).

3.2- PROCEDURE

Choose the analysis conditions and the type of desiccator according to the DOC N° QC-0007 A:

- Depending on the case, use an empty dish, with sand or disc.
- Add the mass of emulsion taking care to spread it into small droplets over the entire surface of the dish.
- The percentage of non-volatile solid is directly given on the screen when the measurement is finished.

Remark:

The non volatiles solid is given by:

$$\text{SOLID } \% = \frac{W_d}{W_S} \times 100$$

with : W_d = dry weight (in g)
Ws = sample weight (in g)

SNF	PROCEDURE	N° : QC-1019 A
	STANDARD BROOKFIELD UL ADAPTATOR VISCOSITY	Rev : 07 Page : 1/3

Issue	Application date	Issued by	Controlled by	Approved by
07	05/10/18	**S. Coccolo**	**L. Avond**	**M. Huart**
Remarks:	Updating of §3 4 and §5.			

1- REAGENT AND APPARATUS

- NaCl, sodium chloride minimum 95%
- Deionised water,
- Invertor = tridecylic alcohol EO8 (for example LUTENSOL TO 89 from BASF),

- Mechanical stirrer fitted with a stainless steel shaft equipped at the end with blades about 2 cm radius, propeller type,
- High tall 600 mL beaker,
- 4 L plastic beaker,
- Disposable plastic syringes (5 mL, 2 mL and 10 mL),
- 2 balances with an accurancy of 0.0001 g and 0.1 g,
- Thermometer,
- LVT Brookfield viscometer with UL adaptor,
- 100 mL volumetric cylinder.

2- SAFETY EQUIPEMENT REQUIRED

Used the safety equipement required in the laboratory (safety glasses, gloves and safety clothes)

3- PREPARATION OF 1G/L SODIUM CHLORIDE SOLUTION

Weigh 4,0 g of chloride sodium in 4 L plastic beaker and filled to 4000 g with deionised water.
Mix to obtain an homogeneous solution.

4- PREPARATION OF THE INITIAL 0.5 % POLYMER SOLUTION

- Weigh 100 mL of 1g/L NaCl in a 600 ml beaker
- Start stirring with the mechanical stirrer at 500 rpm.
  Place the blade as low as possible in the beaker.
- Calculate the weight of emulsion (W_0) required to obtain 0.5 g of polymer.

$$W_0 = \frac{50}{C}$$

  where C is the percentage of active matter of the emulsion.
- Withdraw approximately the weight (W_0) of emulsion into a plastic syringe.
  Wipe carrefullly the outside of the syringe.
- Weigh accurately the filled syringe and record the weight (W_F).
- Disperse quickly the content of the syringe into the vortex of the beaker.
- Weigh the empty syringe and record the weight (W_E).
- Calculate $W = W_F - W_E$.
- Let stir for 10 minutes.
- Add 0,2 mL of invertor with a syringe.
- Let stir again for 10 minutes.

5- PREPARATION OF THE 0.1 % POLYMER IN 1 M NACL

- Add in the beaker the NaCl amount Q_S in g :

$$Q_S = 0.585 \times W \times C - 0.1$$

- Add in the beaker the deionised water Q_E in g :

$$Q_E = W \times (9.7949 \times C - 1) - 100.2$$

- Stir for 10 minutes at 500 rpm.
- Now, we have a 0.1 % solution of polymer in 1 M NaCl.
- The solution is ready for viscosity measurement.

6- VISCOSITY MEASUREMENT OF POLYMER SOLUTION

The viscosity is determined by mean of a Brookfield viscometer model LVT with an UL adaptor with a speed of 60 rpm.

6.1- USE WITH A CLOSED TUBE (WITH A REMOVABLE END CAP)

The cylindrical spindle is fixed to the viscometer.16 mL of the previous solution are placed in the tube closed with a removable end cap. The tube is then attached to the viscometer. The temperature of the solution is maintained between 23 and 25 °C.

6.2- USE WITH AN OPEN TUBE (IN A BEAKER)

Adapt the cylindrical spindle and the tube, without end cap, on the viscometer. Dive the UL adaptor into the beaker containing the previous polymer solution. Pay attention to air bubbles. The liquid must arrive to the index level marked on the tube. The temperature is maintained between 23 and 25 °C.

This method gives similar results than if we use a removable end cap, but allows a series of measurement for routine control.

6.3- MEASUREMENT

Let turn the spindle at 60 rpm till the index is stable on the graduation (about 30 seconds).

VISCOSITY in cP = (Readen value - 0.4) x 0.1

Items to Note for Use of Procedure:

Section	Note
2- Preparation of the Initial 0.5% Polymer Solution	If called for by the QC database, or if instructed by management that the product does not contain inverting surfactant, then add 1 g of NP-10 to the vortex, prior to adding the neat emulsion product.
3- Procedure	Solution for UL Viscosity: If called for by the QC database, or if instructed by management that the product does not contain inverting surfactant, then add 0.5 g of NP-10, instead of the 0.2 g of NP-10 called for by the procedure.
4- Procedure	Same as above, for section "3- Procedure."

FREE ACRYLAMIDE CONTENT
ON EMULSIONS

Issue	Application date	Issued by	Controlled by	Approved by
10	31/08/05	M. Huart	Ph. Lecointre	R. Hund
Remarks :	NWS residual acrylamide modification. Addition of new chromatographic conditions.			

The free acrylamide content on emulsion is determined:

- Or by liquid chromatography,
- Or by gas chromatography.

A- LIQUID CHROMATOGRAPHY

A1- PRINCIPLE

Unreacted acrylamide in polymer is extracted from the sample with a mixture of solvents and water.
The solution is then analysed by liquid chromatography for the determination of the acrylamide content. Peaks are identified by retention time. Concentrations are calculated from peak area measurements using ratio and proportion with an external standard.

A2- APPARATUS

- Liquid chromatograph equiped with a variable wavelength detector and an integration system (Millenium of WATERS for example),
- or ECONOSIL C18 (Alltech)
  length : 25 cm
  ID: 4.6 mm
  Particule size: 10 µm
- or ATLANTIS DC 18 (Waters) column
  length : 150 mm
  ID: 4.6 mm
  Particule size: 3 µm

A3- REAGENTS

- Acrylamide,
- HPLC quality water,
- HPLC quality methanol,
- Acetone, ethanol or isopropanol,
- NaH_2PO_4 buffer 50 m M/l of pH = 3.75.

A4- EQUIPMENT

- 50 ml, 100 ml and 1,000 ml volumetric cylinders,
- 100 ml beaker,
- 1,000 ml glass bottle,
- 100 and 1,000 ml volumetric flasks,
- 1 ml and 20 ml pipets,
- 5 ml disposable seringe,
- 50 ml volumetric cylinder,
- Vials : 30 ml size with screw caps,
- Mechanical stirrer,
- Analytical balance (0.001 g),
- 0.45 µm filter (compatible with solvent).

A5- CHROMATOGRAPH SETTING

A5.1- ECONOSIL COLUMN

Wavelength ..... : 205 nm
Flow rate ..... : 0.9 ml/min
Eluent..... : 6/94 methanol/water (V/V)
Injected volume..... : 10 µl (acetone extraction)
Injected volume..... : 5 µl (ethanol extraction)
Analysis time..... : about 10 min (acetone extraction)
about 9 min (ethanol extraction)

A5-2- ATLANTIS COLUMN

Wavelength ..... : 205 nm
Flow rate ..... : 1.0 ml/min
Eluent..... : 85% NaH_2PO_4 50 buffer mM/l / 15% methanol (V/V)
Injected volume..... : 10 µl
Analysis time..... : 6 mn

A6- ACETONE EXTRACTION

A6.1- PREPARATION OF THE FREE MONOMERE EXTRACTANT

Solution D

Mix 900 ml of acetone and 100 ml of HPLC water measured with a volumetric cylinder. Store it in a 1 liter glass bottle.

A6.2- PREPARATION OF THE STANDARD

Dissolve 1.00 g of solid acrylamide in HPLC water in a 100 ml flask. Complete to 100 ml (1 % solution).

This solution will be diluted to obtain standards between 10 and 100 ppm real (o.g. between 100 and 1000 ppm taking in account the sample dilution).

For example :

Add by pipet 1.0 ml of the initial acrylamide solution in a 100 ml flask and complete to 100 ml with HPLC water

This last blending is a standard containing 0.01 % of acrylamide

The 1 % solution will be stored 1 month, but standard solutions must be prepared freshly every weeks.

A6.3- PREPARATION OF SAMPLES

- Weigh a sample of 1.99 - 2.01 g into a vial. Add 20 ml of solution D. Cap the vial and allow to shake for 4 hours.
- The extract is filtrated through a 0.45 µm filter. The sample is ready to be analysed.

Remark : if the obtained value is higher than the calibration curve, make a more important dilution of the sample.

A6.4- CALCULATION

$$\% \text{ Acrylamide} = \frac{100 \times \text{sample peak area}}{\text{Standard peak area}} \times 10$$

10 factor is due to dilution.

Remark : with the integration software utilisation, we make a calibration in 5 points (100, 250, 500, 750 and 1000 ppm) and the dilution is directly integrated in the calculation.

A7- ETHANOL EXTRACTION

A7.1- STANDARD PREPARATION

Dissolve 1.0 g of acrylamide in ethanol in a 100 ml volumetric flask.

We obtain a 1 % solution. This solution will be diluted to obtain standards between 10 and 100 ppm real (o.g between 100 and 1000 ppm taking in account the sample dilution).

For example :

- Take 1 ml of this solution with a pipet,
- complete to 100 ml with ethanol in a volumetric flask.

So we obtain a solution at 100 ppm in acrylamide.

The 1 % solution and standards in ethanol must be made freshly every week.

A7.2- SAMPLE PREPARATION

- In a 100 ml beaker, pour 50 ml of ethanol(*) with a cylinder.
- Under stirring, pour about accurately 5.0 g of emulsion with a seringe [m emulsion (g) = filled seringe weight – empty seringe weight] and let it stir for 30 minutes (pay attention to eventual projections)
- Stop the stirring and wait. Filter the extract with the 0.45 µm filter.

(*) for high cationic emulsions, it is better to use isopropanol, to avoid that emulsion is partially dissolved.

Remark : if the obtained value is higher than the calibration curve, make a more important dilution of the sample.

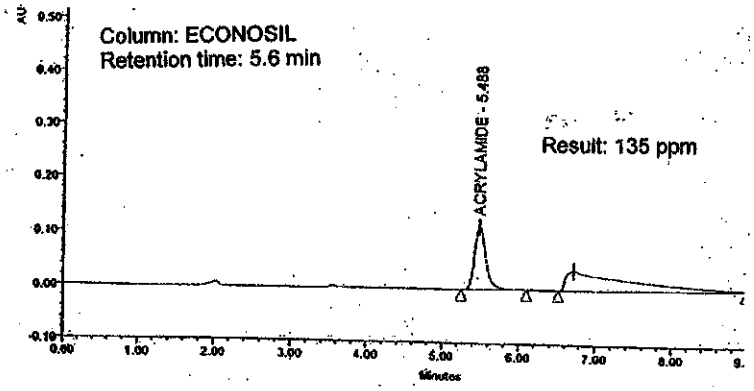
A7.3- CALCULATION

$$\text{Acrylamide (in ppm)} = 100 \times \frac{\text{Sample peak area}}{\text{Standard peak area}} \times \frac{50}{m}$$

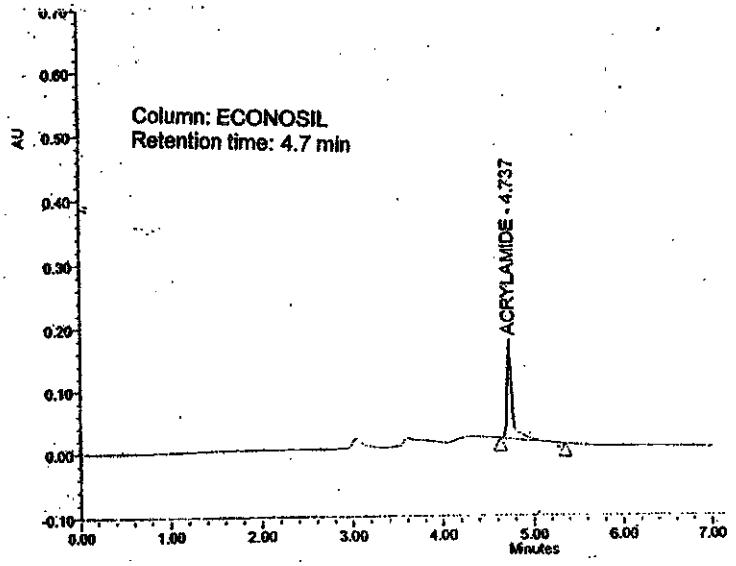
$\frac{50}{m}$ = dilution factor

m = weight of sample (g)

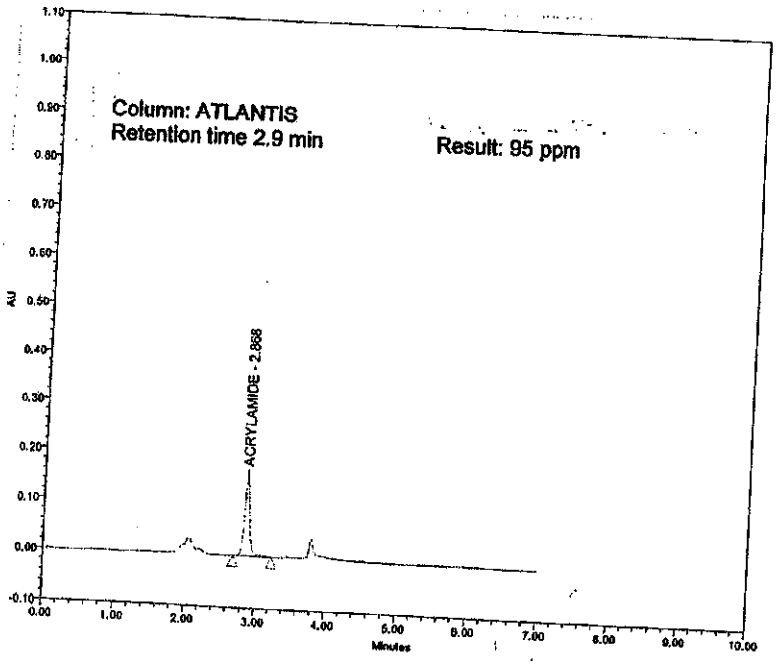
Remark : with the integration software utilisation, we make a calibration in 5 points (100, 250, 500, 750 and 1000 ppm) and the dilution is directly integrated in the calculation.



TYPICAL CHROMATOGRAM WITH ACETONE EXTRACTION (HPLC)



TYPICAL CHROMATOGRAMS WITH ETHANOL EXTRACTION (HPLC)



B- GAS CHROMATOGRAPHY

B1- PRINCIPLE

Unreacted acrylamide in polymer is extracted with ethanol.
The solution is then analysed by gas chromatography for the determination of acrylamide content. The concentration in acrylamide is calculated from peak area measurement using ratio and proportion with an internal standard.

B2- APPARATUS

- Gas chromatograph for capillary column with a flamme ionisation detector (like FISONS GC 8000),
- Column : SUPELCOWX 10 (L = 15 m, ID = 0.53 mm, Film : 1 µm),
- Conditions :
  - Injector temperature ..... : 200° C
  - Oven temperature. ..... : 155° C (isothermal)
  - Detector temperature. ..... : 250° C
  - Carrier gas (nitrogen) ..... : 8 Psi
    - split ..... : 170 ml/minute
    - injection ..... : 5 µl
  - Analysis time ..... : 4 minutes

B3- EQUIPEMENT AND REAGENT

- Magnetic stirrer,
- Scaling weight (0.01 g),
- 0,45 µm filter (compatible with the solvent)
- 100, 250 and 1,000 ml volumetric flask,
- 100 ml beaker,
- 5 ml disposable syringe,
- 50 ml volumetric cylinder,
- 1 ml pipet.

- Acrylamide, analytical grade,
- Metacrylamide, analytical grade (= internal standard),
- Ethanol.

B4- STANDARD PREPARATION

- First, we prepare an ethanol solution with 100 ppm of metacrylamide (solution A).
  In a 1,000 ml flask, pour 0,1 g of metacrylamide and complete to 1 liter with ethanol.

- Then, prepare a solution at 40 ppm in acrylamide.
  - dissolve 1.00 g of acrylamide with 100 ml of solution A in a volumetric flask (= 1 % solution).
  - take 1 ml of this solution and complete to 250 ml with solution A in a volumetric flask (= 40 ppm solution).

B5- SAMPLE PREPARATION

- In a 100 ml beaker, pour 50 ml of solution A with a volumetric cylinder.
- Under stirring, pour about precisely 5 g of emulsion and let it stir for 30 minutes (pay attention to possible projection).
  [w emulsion (in g) = filled syringe weight - empty syringe weight]
  Stop the stirring and wait. Filter the extract with the 0,45 µm filter.

The sample is ready to be analysed.

B6- CALCULATION

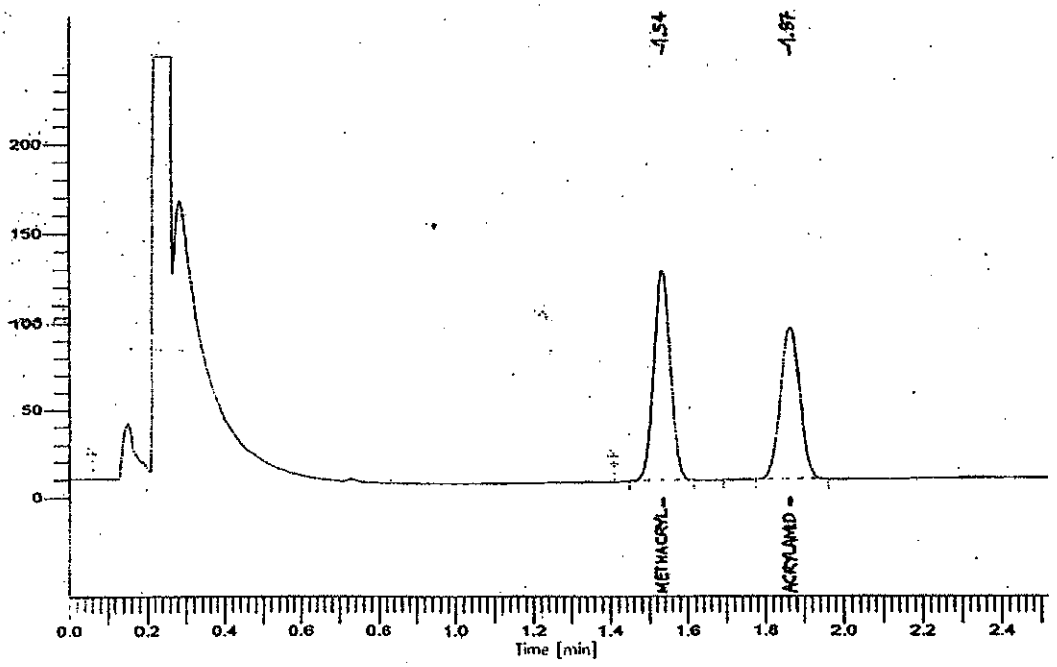
$$\text{Acrylamide (in ppm)} = 40 \times \frac{\text{AM sample area}}{\text{AM std area}} \times \frac{\text{IS std area}}{\text{IS sample area}} \times \frac{50}{w}$$

AM sample..... : acrylamide peak in sample
AM std ..... : acrylamide peak in standard
IS sample..... : metacrylamide peak in sample
IS std ..... : metacrylamide peak in standard
w..... : weight of emulsion (about 5 g)

TYPICAL CHROMATOGRAM
ETHANOL EXTRACTION (GC)

Conditions

Column ..... : SUPELCOWAX 10
Nitrogen ..... : 8 Psi
Split..... : 155° C
Isothermal..... : 200° C
Injector..... : 250° C
Detector..... : 170 ml/minute
Retention time:
Ethanol..... : 0.25 minutes
Internal standard.. : 1.5 minutes
Acrylamide ..... : 1.9 minutes



Remarks on paragraphs A6.4-, A7.3- and B6 :

1- If we want to take in account either active matter or non volatile solids, we apply the following equation :

– % acrylamide (based on active matter) = $\frac{\text{\% measured acrylamide}}{\text{\% theorical active matter}}$

– % acrylamide (based on volatile solids) = $\frac{\text{\% measured acrylamide}}{\text{\% measured non volatile solids}}$

2- For the above emulsions, the acrylamide content is calculated on the basis of active matter :

* emulsion with BGVV approval
  – in SNF range, name of product with the letter "S",
  Example : EM 533 S
  – free acrylamide < 1 000 ppm based on active content.
* emulsion with GRAS affirmation
  – in SNF range, name of product with the letters "GR",
  Example : EM 533 GR
  – free acrylamide < 500 ppm based on active content.
* emulsion for "Nordic White Swan Ecolabel"
  – in SNF range, name of product with the letters "NWS",
  Example : EM 533 NWS
  – free acrylamide < 700 ppm based on active content.

Items to Note for Use of Procedure:

Section	Note
A2 - Apparatus	The procedure calls for ECONOSIL C18 Packing; however, an equivalent Packing (Column), such as a Whatman ODS-2 C18, is acceptable.
A6.2 - Preparation the Standard	The procedure calls for the use of one standard. However, follow the steps in Attachment QC-200A2 to prepare and run not one, but five, standards.

Miscellaneous:

Residual Acrylamide by Calculation

For Wet Strength Resin (e.g. WS 72), if you cannot run the analytical method(s) described in the procedure, you may calculate the residual acrylamide level based on the residual acrylamide level of the raw materials used (e.g. WSB 30 or WSB 40), using the following equation:

$$RA_{WSR}\ (ppm) = RA_{WSB}\ (ppm) \times \frac{\text{Quantity of WSB used in batch}}{\text{Total batch size}}$$

Where RA_{WSR} = Residual Acrylamide level of Wet Strength Resin
RA_{WSB} = Residual Acrylamide level of Wet Strength Base as reported on COA
WSB = Wet Strength Base

SNF HOLDING COMPANY

PROCEDURE

N° : QC-1003 A

Rev : 01

Page : 1/5

DETERMINATION OF THE ACTIVE CONTENT OR DRY POLYMER CONTENT BY ACETONE EXTRACTION

ISSUE	ISSUED BY	CONTROLLED BY	APPROVED BY	REMARKS
01	Date : 3/12/93 Name : O. Leblanc Initials :	Date : 4/02/93 Name : Ph. Lecointre Initials :	Date : 4-02-93 Name : M. Huart Initials :	First issue
	Date : Nom : Visa :	Date : Nom : Visa :	Date : Nom : Visa :	
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1- SCOPE AND PRINCIPLE

In the extraction by acetone, all the surfactants, the total content of hydrocarbon and water present as components of the emulsion, are separated from the dry polymer in which it may remain only some inorganic salts. By this method, the active content, that is to say the dry polymer percentage of an emulsion can be determined more accurately than with the method of all the present non volatile solids. Therefore, the initial precipitation of the pure polymer must be made very meticulously to achieve a not too fine precipitate which is very difficult to filter, or to prevent the precipitate from forming a block of swollen gel. This work may take very long time and may require a large quantity of emulsion sample.

2- REAGENTS

Acetone laboratory quality

3- APPARATUS

- Balance with an accuracy of 0.01 g,
- Mechanical stirrer with a variable speed motor fitted with a stainless steel shaft equiped at the end with flat vertical about ϕ 5 cm blades,
- Disposable plastic syringes,
- 800 ml tall glass beakers,
- Filter paper,
- Funnel
- High speed mixer 10,000 rpm,
- Ventilated oven,
- Desiccator,
- IR desiccator (Mettler)
  - balance,
  - IR dessicator
  - Alpha numeric printer,
  - Aluminium dish (ϕ = 9.5 cm ; H = 1 cm)

4- PROCEDURE

4.1- Initial extraction

- Weigh a clean and dry 800 ml beaker on the balance and record this weight as W_B.
- Weigh the cleaned and dry shaft of the stirrer and record this weight as W_T.

- Place this beaker on the mechanical stirrer and put in 200 ml of a 10 % water / 90 % acetone mixture.
- Start stirring at 700 rpm.
- Shake the bottle of emulsion sample to homogenize it.
- Withdraw about 10 ml of emulsion in a disposable plastic syringe and weigh it. Record this weight as W_{SF}.
- Disperse dropwise the emulsion of the syringe into the vortex of the water /acetone mixture. Let it stir during 2 min.
- Weigh the empty syringe and record this weight as W_{SE}.
- Stop stirring and start operations of filtration and washing.

IMPORTANT NOTE

Reliable results of the acetone extraction test method are got when the initial extraction is made sucessfully, which means that the initial precipitate is correct :

- particles well separate,
- range of size of particle up to 2 mm,
- liquid clear,
- not too many fines.

The initial extraction is made in a 10 % water / 90 % acetone which is rather better than in pure acetone, because of the tendency of the precipitate to form either fine particles very difficult to filter or large swollen soft block which are impossible to treat.

If the initial precipitate made with 10 % water / 90 % acetone mixture is not correct, the paragraph 4.1- must be run again with a different ratio (in general more acetone if the precipitate is too large and sticky and more water if the precipitate is too fine).

4.2- Filtration and washing

- Weigh a dry fiter paper, record its weight as W_P.
- Place the filter paper in the funnel.
- Transfer the contents of the beaker in the funnel and let the filtration pass through the filter. If some particles stay in the beaker, or are stuck on the wall of the beaker, it does not matter.
- When there is no more liquid in the filter, transfer the filter cake in the beaker. Place the beaker on a mechanical stirrer, start stirring to 500 rpm. Add 200 ml of pure acetone and continue stirring for 15 min. If the particles have tendency to agglomerate, it is possible to break this agglomeration by giving 5 seconds of mixing over the blocks with high speed mixer.
- Repeat filtration and washing at least twice, more if necessary, until the particles are very hard. Use always the same filter preweighed for each filtration.

4.3- Drying

- After the last filtration and the washing step, put the filter, the beaker and the shaft of the stirrer containing the wet precipitate in an oven at 60 °C.
- Let dry during 3 hours.
- Cool in a dessicator to 20 °C for 15 min.
- Weigh the filter paper the beaker and the shaft of the stirrer, add all these weights and record the result as W_{FINAL}.

4.4- Determination of the percent of non volatil solid of the extract

Weigh about 1 g of the extract taken from the beaker or from the filter paper, in an aluminium dish on the Mettler IR dessicator. Run the drying program at 160 °C for 16 min. The percentage non volatil solids in the exctract is given directly by the printer when the measurement is finished.

Note this percentage as : D_{NVSE}.

5- CALCULATION

The active content of the emulsion analysed is given by :

$$\% \text{ in weight of active content based on total emulsion} = \frac{W_{FINAL} - (W_B + W_T + W_P)}{W_{SF} - W_{SE}} \times D_{NVSE}$$

SNF POLYDYNE

CERTIFICATE OF ANALYSIS

Polydyne Inc.
3929 MEDFORD STREET

LOS ANGELES CA 90063

CUSTOMER NAME :
CITY OF SANTA ROSA

OA # : 1361528 - 1 - 1

SANTA ROSA 000

CWilliams@srcity.org
CHRISTIAN

CITY OF SANTA ROSA
P.O. BOX 1678
SANTA ROSA CA 95402
UNITED STATES

POLYDYNE PRODUCT NAME : **CLARIFLOC WE-1452**

PURCHASE ORDER NR : **F000929** **DATE : 12/13/2019**

AMOUNT : **13800 LB**

	UNIT	SPECIFICATION	QUALITY CONTROL BATCH NUMBER BTC2/9866	QC TEST
BULK BROOKFIELD VISCOSITY	cps	500 - 2000	887	1010 A
NON VOLATILE SOLIDS	%	44.5 - 51.5	50.1	1050 A
UL BROOKFIELD VISCOSITY	cps	3.20 - 4.20	3.91	1019 A
RESIDUAL ACRYLAMIDE	ppm	0 - 999	80	1001 A
ACTIVE CONTENT	%	41.0 min	41.0	1003 A

Date : 12/13/2019
Signature
Kimberly Fitch

If the # symbol appears in the QC-TEST column, then the data on that line is given for information only, and does not constitute a specification.
If ND appears in the result column, that means under the limit of detection.
For Personal Care ingredients, the generic name is corresponding to the INCI name.

SUP NR: OG-0098 REVISION: 04

SNF POLYDYNE

PRODUCT BULLETIN

CLARIFLOC WE-1452 POLYMER

PRINCIPAL USES

CLARIFLOC WE-1452 is a **high** charge cationic polyacrylamide in emulsion form that is used as a flocculant in a wide variety of municipal wastewater treatment applications. It has been successfully applied in all liquid/solids separation systems including clarification, thickening, and dewatering.

TYPICAL PROPERTIES

Physical Form	Clear to Milky White Liquid
Cationicity	80 %
Active Polyacrylamide Min.	41 %
Freezing Point	7 F. (-14 C.)
Density	8.4 - 8.6 Lb/Gal

PREPARATION AND FEEDING

CLARIFLOC WE-1452 is a single component emulsion polymer that must be pre-diluted in water before use. In most cases, this product should not be applied neat. One method for dilution is adding the neat polymer into the vortex of a mixed tank at a concentration between 0.25-1.0% polymer (0.5% is optimum) by weight. The polymer can also be injected through a number of commercially available systems that provide in-line mechanical mixing. The best feed systems use initial high energy mixing (>1000 rpm) for a short time (<30 sec) to achieve good dispersion followed by low energy mixing (<400 rpm) for a longer time (10-30 min). Polymer solutions should be aged for 15-60 minutes for best results. Solution shelf life is 8-16 hours.

MATERIALS OF CONSTRUCTION

Cross-linked polyethylene, fiberglass, stainless steel or lined steel are the preferred materials of construction for bulk tanks. Avoid natural rubber and Buna-N gaskets as these materials swell when placed in contact with neat polymer. Unlined mild steel, black iron, galvanized steel, copper or brass are not recommended in any part of the feed system. Stainless steel, Viton or Teflon are the best choices for pump heads. For feed lines, use PVC or reinforced Tygon tubing.

MANUFACTURING SPECIFICATIONS

Total Solids	44.5 - 51.5 %
Residual AcAm	< 1000 ppm
Neat Viscosity	500 - 2000 cPs
UL Viscosity	3.2 - 4.2 cPs

HANDLING AND STORAGE

Suggested in-plant storage life is 6 months in unopened drums. For best results, store at 50-80 F. Bulk tanks should be mixed by periodically recirculating the contents bottom to top. Bulk tanks can also be fitted with an agitator type mixer that reaches the bottom 2 feet of the tank. Drums and bins should be mixed very well before first use and weekly after that. Do not allow emulsion polymers to freeze. Should freezing occur, allow the product to thaw thoroughly in a heated area and mix well before attempting to use it. For spills of CLARIFLOC WE-1452, sprinkle vermiculite or equivalent absorbant over the spill area and sweep the material into approved chemical disposal containers. Do not spray water onto a spill because the resulting gel is very difficult to clean up.

SAFETY INFORMATION

CLARIFLOC WE-1452 is a mildly acidic product that can irritate the skin and eyes and should be handled accordingly. Gloves, goggles and apron are highly recommended. Anyone responsible for the procure-ment, use or disposal of this product should familiarize themselves with the appropriate safety and handling precautions involved. Such information is outlined in the **POLYDYNE** Material Safety Data Sheet. In the event of an emergency with this product, contact Chemtrec anytime day or night at (800) 424-9300.

SHIPPING

CLARIFLOC WE-1452 Polymer is shipped in 55 gallon drums containing 450 pounds net or in 275 gallon tote bins containing 2300 pounds net. Bulk quantities are also available.

ADDITIONAL INFORMATION

To place an order or obtain technical information from anywhere in the continental United States, call toll free:

(800) 848-7659

For additional information, please refer to the Safety Data Sheet (SDS)

SAFETY DATA SHEET

According to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: **CLARIFLOC™ WE-1452**

Type of product: Mixture.

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Processing aid for industrial applications.

Uses advised against: None.

1.3. Details of the supplier of the safety data sheet

Company: Polydyne Inc.
1 Chemical Plant Road
PO BOX 279, Riceboro, GA 31323
United States

Telephone: 1-800-848-7659

Telefax: (912)-884-8770

E-mail address: -

1.4. Emergency telephone number

24-hour emergency number: 1-800-424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to paragraph (d) of 29 CFR 1910.1200:

Not classified.

2.2. Label elements

Labelling according to paragraph (f) of 29 CFR 1910.1200:

Hazard symbol(s):	None.
Signal word:	None.
Hazard statement(s):	None.
Precautionary statement(s):	None.

2.3. Other hazards

Spills produce extremely slippery surfaces.

For explanation of abbreviations see Section 16.

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable, this product is a mixture.

3.2. Mixtures
This product is a mixture.

Hazardous components

Distillates (petroleum), hydrotreated light

Concentration/ -range:	20 - 30%
CAS Number:	64742-47-8
Classification according to paragraph (d) of 29 CFR 1910.1200:	Asp. Tox. 1;H304

Notes
Does not result in classification of the mixture if the kinematic viscosity is greater than 20.5 mm²/s measured at 40°C.

Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched

Concentration/ -range:	< 5%
CAS Number:	69011-36-5
Classification according to paragraph (d) of 29 CFR 1910.1200:	Acute Tox. 4;H302, Eye Dam. 1;H318

For explanation of abbreviations see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Move to fresh air. No hazards which require special first aid measures.

Skin contact:
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. In case of persistent skin irritation, consult a physician.

Eye contact:
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately.

Ingestion:
Rinse mouth with water. Do NOT induce vomiting. Call a physician or poison control centre immediately.

4.2. Most important symptoms and effects, both acute and delayed

None under normal use.

4.3. Indication of any immediate medical attention and special treatment needed

None reasonably foreseeable.

Other information:
None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Water. Water spray. Foam. Carbon dioxide (CO2). Dry powder.
Warning! Spills produce extremely slippery surfaces.

Unsuitable extinguishing media:
None known.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products:
Ammonia. Carbon oxides (COx). Nitrogen oxides (NOx). Hydrogen chloride. Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

5.3. Advice for firefighters

Protective measures:
Wear self-contained breathing apparatus and protective suit.

Other information:
Spills produce extremely slippery surfaces.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions:
Do not touch or walk through spilled material. Spills produce extremely slippery surfaces.

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

Emergency procedures:
Keep people away from spill/leak. Prevent further leakage or spillage if safe to do so.

6.2. Environmental precautions

As with all chemical products, do not flush into surface water.

6.3. Methods and material for containment and cleaning up

Small spills:
Do not flush with water.Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Large spills:
Do not flush with water.Dam up. Soak up with inert absorbent material. Clean up promptly by scoop or vacuum.

Residues:
After cleaning, flush away traces with water.

6.4. Reference to other sections

SECTION 7: Handling and storage; SECTION 8: Exposure controls/personal protection; SECTION 13: Disposal considerations;

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes. Renders surfaces extremely slippery when spilled. When using, do not eat, drink or smoke.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat and sources of ignition. Freezing will affect the physical condition and may damage the material. Incompatible with oxidizing agents.

7.3. Specific end use(s)

This information is not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

Distillates (petroleum), hydrotreated light
ACGIH: 200 mg/m³ (8 hours) (vapors)

8.2. Exposure controls

Appropriate engineering controls:

Ensure adequate ventilation, especially in confined areas. Use local exhaust if misting occurs. Natural ventilation is adequate in absence of mists.

Individual protection measures, such as personal protective equipment:

a) Eye/face protection:
Safety glasses with side-shields.

b) Skin protection:
i) Hand protection: PVC or other plastic material gloves.
ii) Other: Wear coveralls and/or chemical apron and rubber footwear where physical contact can occur.

c) Respiratory protection:
No personal respiratory protective equipment normally required.

d) Additional advice:
Wash hands before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday. Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls:

Do not allow uncontrolled discharge of product into the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

a) Appearance:	Viscous liquid, Milky.
b) Odour:	Aliphatic.
c) Odour Threshold:	No data available.
d) pH:	3.5 - 6.5 @ 5 g/L (See Technical Bulletin or Product Specifications for precise value)
e) Melting point/freezing point:	< 5°C
f) Initial boiling point and boiling range:	> 100°C
g) Flash point:	Does not flash.
h) Evaporation rate:	No data available.

i) Flammability (solid, gas):	Not applicable.
j) Upper/lower flammability or explosive limits:	Not expected to create explosive atmospheres.
k) Vapour pressure:	2.3 kPa @ 20°C
l) Vapour density:	0.804 g/litre @ 20°C
m) Relative density:	1.0 - 1.2
n) Solubility(ies):	Completely miscible.
o) Partition coefficient:	Not applicable.
p) Autoignition temperature:	Not applicable.
q) Decomposition temperature:	> 150°C
r) Viscosity:	> 20.5 mm^2/s @ 40°C
s) Explosive properties:	Not expected to be explosive based on the chemical structure.
t) Oxidizing properties:	Not expected to be oxidising based on the chemical structure.

9.2. Other information

None.

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under recommended storage conditions.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Oxidizing agents may cause exothermic reactions.

10.4. Conditions to avoid

Protect from frost, heat and sunlight.

10.5. Incompatible materials

Oxidizing agents.

10.6. Hazardous decomposition products

Thermal decomposition may produce: hydrogen chloride gas, nitrogen oxides (NOx), carbon oxides (COx). Ammonia. Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Information on the product as supplied:

Acute oral toxicity:	LD50/oral/rat > 5000 mg/kg (Estimated)
Acute dermal toxicity:	LD50/dermal/rat > 5000 mg/kg. (Estimated)
Acute inhalation toxicity:	The product is not expected to be toxic by inhalation.
Skin corrosion/irritation:	Non-irritating to skin.
Serious eye damage/eye irritation:	Not irritating. (OECD 437)
Respiratory/skin sensitisation:	Not sensitizing.
Mutagenicity:	Not mutagenic.
Carcinogenicity:	Not carcinogenic.
Reproductive toxicity:	Not toxic for reproduction.
STOT - Single exposure:	No known effects.
STOT - Repeated exposure:	No known effect.
Aspiration hazard:	Due to the viscosity, this product does not present an aspiration hazard.

Relevant information on the hazardous components:

Distillates (petroleum), hydrotreated light

Acute oral toxicity:	LD50/oral/rat > 5000 mg/kg (OECD 401)
Acute dermal toxicity:	LD50/dermal/rabbit > 5000 mg/kg (OECD 402)
Acute inhalation toxicity:	LC0/inhalation/4 hours/rat >= 4951 mg/m³ (OECD 403) (Based on results obtained from tests on analogous products)
Skin corrosion/irritation:	Not irritating. (OECD 404) Repeated exposure may cause skin dryness or cracking.
Serious eye damage/eye irritation:	Not irritating. (OECD 405)
Respiratory/skin sensitisation:	By analogy with similar products, this product is not expected to be sensitizing. (OECD 406)
Mutagenicity:	Not mutagenic. (OECD 471, 473, 474, 476, 478, 479)

Carcinogenicity:	Carcinogenicity study in rats (OECD 451): Negative.
Reproductive toxicity:	By analogy with similar substances, this substance is not expected to be toxic for reproduction. NOAEL/rat = 300 ppm. (OECD 421)
STOT - Single exposure:	No known effects.
STOT - Repeated exposure:	NOAEL/oral/rat/90 days >= 3000 mg/kg/day (OECD 408) (Based on results obtained from tests on analogous products)
Aspiration hazard:	May be fatal if swallowed and enters airways.

Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched

Acute oral toxicity:	LD50/oral/rat = 500 - 2000 mg/kg
Acute dermal toxicity:	LD50/dermal/rabbit > 2000 mg/kg
Acute inhalation toxicity:	No data available.
Skin corrosion/irritation:	Not irritating. (OECD 404)
Serious eye damage/eye irritation:	Causes serious eye irritation. (OECD 405)
Respiratory/skin sensitisation:	The results of testing on guinea pigs showed this material to be non-sensitizing.
Mutagenicity:	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.
Carcinogenicity:	Based on the absence of mutagenicity, it is unlikely that the substance is carcinogenic.
Reproductive toxicity:	Two-Generation Reproduction Toxicity (OECD 416) - NOAEL/rat > 250 mg/kg/day Prenatal Development Toxicity Study (OECD 414) - NOAEL/Maternal toxicity/rat > 50 mg/kg/day - NOAEL/Developmental toxicity/rat > 50 mg/kg/day
STOT - Single exposure:	No known effects.
STOT - Repeated exposure:	NOAEL/oral/rat/600 days = 50 mg/kg/day
Aspiration hazard:	No known effects.

SECTION 12: Ecological information

12.1. Toxicity

Information on the product as supplied:

Acute toxicity to fish:	LC50/Fish/96 hours = 10 - 100 mg/L (Estimated)
Acute toxicity to invertebrates:	EC50/Daphnia magna/48 hours = 10 - 100 mg/L (Estimated)
Acute toxicity to algae:	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.
Chronic toxicity to fish:	No data available.
Chronic toxicity to invertebrates:	No data available.
Toxicity to microorganisms:	No data available.
Effects on terrestrial organisms:	No data available.
Sediment toxicity:	No data available.

Relevant information on the hazardous components:

Distillates (petroleum), hydrotreated light

Acute toxicity to fish:	LC0/Oncorhynchus mykiss/96 hours > 1000 mg/L. (OECD 203)
Acute toxicity to invertebrates:	EC0/Daphnia magna/48 hours > 1000 mg/L (OECD 202)
Acute toxicity to algae:	IC0/Pseudokirchneriella subcapitata/72 hours > 1000 mg/L. (OECD 201)
Chronic toxicity to fish:	NOEC/Oncorhynchus mykiss/28 days > 1000 mg/L
Chronic toxicity to invertebrates:	NOEC/Daphnia magna/21 days > 1000 mg/L
Toxicity to microorganisms:	EC50/Tetrahymena pyriformis/ 48h > 1000 mg/L.
Effects on terrestrial organisms:	No data available.
Sediment toxicity:	No data available. Readily biodegradable, exposure to sediment is unlikely.

Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched

Acute toxicity to fish:	LC50/Cyprinus carpio/96 hours = 1 - 10 mg/L (OECD 203)

Acute toxicity to invertebrates:	EC50/Daphnia/48 hours = 1 - 10 mg/L (OECD 202)
Acute toxicity to algae:	IC50/Desmodesmus subspicatus/72 hours = 1 - 10 mg/L (OECD 201)
Chronic toxicity to fish:	No data available.
Chronic toxicity to invertebrates:	NOEC/Daphnia magna/21 days > 1 mg/L (OECD 202)
Toxicity to microorganisms:	EC10/activated sludge/17 hours > 10000 mg/L (DIN 38412-8)
Effects on terrestrial organisms:	No data available.
Sediment toxicity:	No data available.

12.2. Persistence and degradability

Information on the product as supplied:

Degradation:	Based on degradation data of components, this product is expected to be readily (bio)degradable.
Hydrolysis:	At natural pHs (>6) the polymer degrades due to hydrolysis to more than 70% in 28 days. The hydrolysis products are not harmful to aquatic organisms.
Photolysis:	No data available.

Relevant information on the hazardous components:

Distillates (petroleum), hydrotreated light

Degradation:	Readily biodegradable. 67.6% / 28 days (OECD 301 F) ; 68.8% / 28 days (OECD 306) ; 61.2% / 61 days (OECD 304 A)
Hydrolysis:	Does not hydrolyse.
Photolysis:	No data available.

Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched

Degradation:	Readily biodegradable. > 60% / 28 days (OECD 301 B)
Hydrolysis:	Does not hydrolyse.
Photolysis:	No data available.

12.3. Bioaccumulative potential

Information on the product as supplied:

The product is not expected to bioaccumulate.

Partition co-efficient (Log Pow): Not applicable.

Bioconcentration factor (BCF): No data available.

Relevant information on the hazardous components:

Distillates (petroleum), hydrotreated light

Partition co-efficient (Log Pow): 3 - 6

Bioconcentration factor (BCF): No data available.

Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched

Partition co-efficient (Log Pow): > 3

Bioconcentration factor (BCF): No data available.

12.4. Mobility in soil

Information on the product as supplied:

No data available.

Relevant information on the hazardous components:

Distillates (petroleum), hydrotreated light

Koc: No data available.

Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched

Koc: > 5000

12.5. Other adverse effects

None known.

SECTION 13: Disposal considerations

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products:

Dispose in accordance with local and national regulations.

Contaminated packaging:

Rinse empty containers with water and use the rinse-water to prepare the working solution. If recycling is not practicable, dispose of in compliance with local regulations. Can be landfilled or incinerated, when in compliance with local regulations.

Recycling:

Store containers and offer for recycling of material when in accordance with the local regulations.

SECTION 14: Transport information

Land transport (DOT)

Not classified.

Sea transport (IMDG)

Not classified.

Air transport (IATA)

Not classified.

SECTION 15: Regulatory information

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

Information on the product as supplied:

TSCA Chemical Substances Inventory:

All components of this product are either listed as active on the inventory or are exempt from listing.

US SARA Reporting Requirements:

SARA (Section 311/312) hazard class:
Not concerned.

SARA Title III Sections:

Section 302 (TPQ) - Reportable Quantity:
Not concerned.

Section 304 - Reportable Quantity:
Not concerned.

Section 313 (De minimis concentration):
Not concerned.

Clean Water Act

Section 311 Hazardous Substances (40 CFR 117.3) - Reportable Quantity:
Not concerned.

Clean Air Act

Section 112(r) Accidental release prevention requirements (40 CFR 68) - Reportable Quantity:
Not concerned.

CERCLA

Hazardous Substances List (40 CFR 302.4) - Reportable Quantity:
Not concerned.

RCRA status :

Not RCRA hazardous.

California Proposition 65 Information:

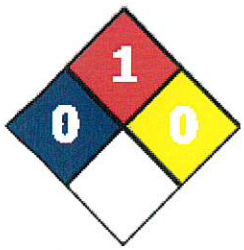
WARNING! This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm, Acrylamide

SECTION 16: Other information

NFPA and HMIS Ratings:

NFPA:

Health:	0
Flammability:	1
Instability:	0



HMIS:

Health:	0
Flammability:	1

Physical Hazard: 0
PPE Code: B

This data sheet contains changes from the previous version in section(s):

SECTION 8. Exposure controls/personal protection, SECTION 15. Regulatory information, SECTION 16. Other Information.

Key or legend to abbreviations and acronyms used in the safety data sheet:

Acronyms
STOT = Specific target organ toxicity

Abbreviations
Acute Tox. 4 = Acute toxicity Category Code 4
Asp. Tox. 1 = Aspiration hazard Category Code 1
Eye Dam 1 = Serious eye damage/eye irritation Category Code 1

Hazard statements
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H318 - Causes serious eye damage

Training advice:

Do not handle until all safety precautions have been read and understood.

This SDS was prepared in accordance with the following:

U.S. Code of Federal Regulations 29 CFR 1910.1200

Version: 19.01.a

ENCC046

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

SNF POLYDYNE

CERTIFICATE OF ANALYSIS

Polydyne Inc.
3929 MEDFORD STREET

LOS ANGELES CA 90063

CUSTOMER NAME :
CITY OF SANTA ROSA

CITY OF SANTA ROSA
P.O. BOX 1678
SANTA ROSA CA 95402
UNITED STATES

POLYDYNE PRODUCT NAME : **CLARIFLOC WE-2040**

PURCHASE ORDER NR : **DATE : 11/18/2019**

AMOUNT :			**QUALITY CONTROL**	**QC**
	UNIT	**SPECIFICATION**	**BATCH NUMBER RC19/5555M**	**TEST**
BULK BROOKFIELD VISCOSITY	cps	500 - 2000	1157	1010 A
NON VOLATILE SOLIDS	%	44.5 - 51.5	46.6	1050 A
UL BROOKFIELD VISCOSITY	cps	3.20 - 4.20	3.74	1019 A
RESIDUAL ACRYLAMIDE	ppm	0 - 999	55	1001 A
ACTIVE CONTENT	%	41.0 min	41.0	1003 A

Date : 11/18/2019
Signature
Kimberly Fitch

If the # symbol appears in the QC-TEST column, then the data on that line is given for information only, and does not constitute a specification.
If ND appears in the result column, that means under the limit of detection.
For Personal Care ingredients, the generic name is corresponding to the INCI name.

SUP NR: OG-0098 REVISION: 04

SNF POLYDYNE

PRODUCT BULLETIN

CLARIFLOC WE-2040 POLYMER

PRINCIPAL USES

CLARIFLOC WE-2040 is a **high** charge cationic polyacrylamide in emulsion form that is used as a flocculant in a wide variety of municipal wastewater treatment applications. It has been successfully applied in all liquid/solids separation systems including clarification, thickening, and dewatering.

TYPICAL PROPERTIES

Physical Form	Clear to Milky White Liquid
Cationicity	80 %
Active Polyacrylamide Min.	41 %
Freezing Point	7 F. (-14 C.)
Density	8.4 - 8.6 Lb/Gal

PREPARATION AND FEEDING

CLARIFLOC WE-2040 is a single component emulsion polymer that must be pre-diluted in water before use. In most cases, this product should not be applied neat. One method for dilution is adding the neat polymer into the vortex of a mixed tank at a concentration between 0.25-1.0% polymer (0.5% is optimum) by weight. The polymer can also be injected through a number of commercially available systems that provide in-line mechanical mixing. The best feed systems use initial high energy mixing (>1000 rpm) for a short time (<30 sec) to achieve good dispersion followed by low energy mixing (<400 rpm) for a longer time (10-30 min). Polymer solutions should be aged for 15-60 minutes for best results. Solution shelf life is 8-16 hours.

MATERIALS OF CONSTRUCTION

Cross-linked polyethylene, fiberglass, stainless steel or lined steel are the preferred materials of construction for bulk tanks. Avoid natural rubber and Buna-N gaskets as these materials swell when placed in contact with neat polymer. Unlined mild steel, black iron, galvanized steel, copper or brass are not recommended in any part of the feed system. Stainless steel, Viton or Teflon are the best choices for pump heads. For feed lines, use PVC or reinforced Tygon tubing.

MANUFACTURING SPECIFICATIONS

Total Solids	44.5 - 51.5 %
Residual AcAm	< 1000 ppm
Neat Viscosity	500 - 2000 cPs
UL Viscosity	3.2 - 4.2 cPs

HANDLING AND STORAGE

Suggested in-plant storage life is 6 months in unopened drums. For best results, store at 50-80 F. Bulk tanks should be mixed by periodically recirculating the contents bottom to top. Bulk tanks can also be fitted with an agitator type mixer that reaches the bottom 2 feet of the tank. Drums and bins should be mixed very well before first use and weekly after that. Do not allow emulsion polymers to freeze. Should freezing occur, allow the product to thaw thoroughly in a heated area and mix well before attempting to use it. For spills of CLARIFLOC WE-2040, sprinkle vermiculite or equivalent absorbant over the spill area and sweep the material into approved chemical disposal containers. Do not spray water onto a spill because the resulting gel is very difficult to clean up.

SAFETY INFORMATION

CLARIFLOC WE-2040 is a mildly acidic product that can irritate the skin and eyes and should be handled accordingly. Gloves, goggles and apron are highly recommended. Anyone responsible for the procure-ment, use or disposal of this product should familiarize themselves with the appropriate safety and handling precautions involved. Such information is outlined in the **POLYDYNE** Material Safety Data Sheet. In the event of an emergency with this product, contact Chemtrec anytime day or night at (800) 424-9300.

SHIPPING

CLARIFLOC WE-2040 Polymer is shipped in 55 gallon drums containing 450 pounds net or in 275 gallon tote bins containing 2300 pounds net. Bulk quantities are also available.

ADDITIONAL INFORMATION

To place an order or obtain technical information from anywhere in the continental United States, call toll free:

(800) 848-7659

For additional information, please refer to the Safety Data Sheet (SDS)

SNF POLYDYNE

SAFETY DATA SHEET

According to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: **CLARIFLOC WE-2040**

Type of product: Mixture.

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Processing aid for industrial applications.

Uses advised against: None.

1.3. Details of the supplier of the safety data sheet

Company: Polydyne Inc.
1 Chemical Plant Road
PO BOX 279, Riceboro, GA 31323
United States

Telephone: 1-800-848-7659

Telefax: (912)-884-8770

E-mail address: -

1.4. Emergency telephone number

24-hour emergency number: 1-800-424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to paragraph (d) of 29 CFR 1910.1200:

Not classified.

2.2. Label elements

Labelling according to paragraph (f) of 29 CFR 1910.1200:

Hazard symbol(s):	None.
Signal word:	None.
Hazard statement(s):	None.
Precautionary statement(s):	None.

2.3. Other hazards

Spills produce extremely slippery surfaces.

For explanation of abbreviations see Section 16.

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable, this product is a mixture.

3.2. Mixtures
This product is a mixture.

Hazardous components

Distillates (petroleum), hydrotreated light

Concentration/ -range:	20 - 30%
CAS Number:	64742-47-8
Classification according to paragraph (d) of 29 CFR 1910.1200:	Asp. Tox. 1;H304

Notes
Does not result in classification of the mixture if the kinematic viscosity is greater than 20.5 mm²/s measured at 40°C.

Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched

Concentration/ -range:	< 5%
CAS Number:	69011-36-5
Classification according to paragraph (d) of 29 CFR 1910.1200:	Acute Tox. 4;H302, Eye Dam. 1;H318

For explanation of abbreviations see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Move to fresh air. No hazards which require special first aid measures.

Skin contact:
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. In case of persistent skin irritation, consult a physician.

Eye contact:
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately.

Ingestion:
Rinse mouth with water. Do NOT induce vomiting. Call a physician or poison control centre immediately.

4.2. Most important symptoms and effects, both acute and delayed

None under normal use.

4.3. Indication of any immediate medical attention and special treatment needed

None reasonably foreseeable.

Other information:
None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Water. Water spray. Foam. Carbon dioxide (CO2). Dry powder.
Warning! Spills produce extremely slippery surfaces.

Unsuitable extinguishing media:
None known.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products:
Ammonia. Carbon oxides (COx). Nitrogen oxides (NOx). Hydrogen chloride. Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

5.3. Advice for firefighters

Protective measures:
Wear self-contained breathing apparatus and protective suit.

Other information:
Spills produce extremely slippery surfaces.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions:
Do not touch or walk through spilled material. Spills produce extremely slippery surfaces.

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

Emergency procedures:
Keep people away from spill/leak. Prevent further leakage or spillage if safe to do so.

6.2. Environmental precautions

As with all chemical products, do not flush into surface water.

6.3. Methods and material for containment and cleaning up

Small spills:
Do not flush with water.Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Large spills:
Do not flush with water.Dam up. Soak up with inert absorbent material. Clean up promptly by scoop or vacuum.

Residues:
After cleaning, flush away traces with water.

6.4. Reference to other sections

SECTION 7: Handling and storage; SECTION 8: Exposure controls/personal protection; SECTION 13: Disposal considerations;

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes. Renders surfaces extremely slippery when spilled. When using, do not eat, drink or smoke.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat and sources of ignition. Freezing will affect the physical condition and may damage the material. Incompatible with oxidizing agents.

7.3. Specific end use(s)

This information is not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

Distillates (petroleum), hydrotreated light
ACGIH: 200 mg/m³ (8 hours) (vapors)

8.2. Exposure controls

Appropriate engineering controls:

Ensure adequate ventilation, especially in confined areas. Use local exhaust if misting occurs. Natural ventilation is adequate in absence of mists.

Individual protection measures, such as personal protective equipment:

a) Eye/face protection:
Safety glasses with side-shields.

b) Skin protection:
i) Hand protection: PVC or other plastic material gloves.
ii) Other: Wear coveralls and/or chemical apron and rubber footwear where physical contact can occur.

c) Respiratory protection:
No personal respiratory protective equipment normally required.

d) Additional advice:
Wash hands before breaks and immediately after handling the product. Wash hands before breaks and at the end of workday. Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls:

Do not allow uncontrolled discharge of product into the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

a) Appearance:	Viscous liquid, Milky.
b) Odour:	Aliphatic.
c) Odour Threshold:	No data available.
d) pH:	3.5 - 6.5 @ 5 g/L (See Technical Bulletin or Product Specifications for precise value)
e) Melting point/freezing point:	< 5°C
f) Initial boiling point and boiling range:	> 100°C
g) Flash point:	Does not flash.
h) Evaporation rate:	No data available.

i) Flammability (solid, gas):	Not applicable.
j) Upper/lower flammability or explosive limits:	Not expected to create explosive atmospheres.
k) Vapour pressure:	2.3 kPa @ 20°C
l) Vapour density:	0.804 g/litre @ 20°C
m) Relative density:	1.0 - 1.2
n) Solubility(ies):	Completely miscible.
o) Partition coefficient:	Not applicable.
p) Autoignition temperature:	Not applicable.
q) Decomposition temperature:	> 150°C
r) Viscosity:	> 20.5 mm^2/s @ 40°C
s) Explosive properties:	Not expected to be explosive based on the chemical structure.
t) Oxidizing properties:	Not expected to be oxidising based on the chemical structure.

9.2. Other information

None.

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under recommended storage conditions.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Oxidizing agents may cause exothermic reactions.

10.4. Conditions to avoid

Protect from frost, heat and sunlight.

10.5. Incompatible materials

Oxidizing agents.

10.6. Hazardous decomposition products

Thermal decomposition may produce: hydrogen chloride gas, nitrogen oxides (NOx), carbon oxides (COx). Ammonia. Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Information on the product as supplied:

Acute oral toxicity:	LD50/oral/rat > 5000 mg/kg (Estimated)
Acute dermal toxicity:	LD50/dermal/rat > 5000 mg/kg. (Estimated)
Acute inhalation toxicity:	The product is not expected to be toxic by inhalation.
Skin corrosion/irritation:	Non-irritating to skin.
Serious eye damage/eye irritation:	Not irritating. (OECD 437)
Respiratory/skin sensitisation:	Not sensitizing.
Mutagenicity:	Not mutagenic.
Carcinogenicity:	Not carcinogenic.
Reproductive toxicity:	Not toxic for reproduction.
STOT - Single exposure:	No known effects.
STOT - Repeated exposure:	No known effect.
Aspiration hazard:	Due to the viscosity, this product does not present an aspiration hazard.

Relevant information on the hazardous components:

Distillates (petroleum), hydrotreated light

Acute oral toxicity:	LD50/oral/rat > 5000 mg/kg (OECD 401)
Acute dermal toxicity:	LD50/dermal/rabbit > 5000 mg/kg (OECD 402)
Acute inhalation toxicity:	LC0/inhalation/4 hours/rat >= 4951 mg/m³ (OECD 403) (Based on results obtained from tests on analogous products)
Skin corrosion/irritation:	Not irritating. (OECD 404) Repeated exposure may cause skin dryness or cracking.
Serious eye damage/eye irritation:	Not irritating. (OECD 405)
Respiratory/skin sensitisation:	By analogy with similar products, this product is not expected to be sensitizing. (OECD 406)
Mutagenicity:	Not mutagenic. (OECD 471, 473, 474, 476, 478, 479)

Carcinogenicity:	Carcinogenicity study in rats (OECD 451): Negative.
Reproductive toxicity:	By analogy with similar substances, this substance is not expected to be toxic for reproduction. NOAEL/rat = 300 ppm. (OECD 421)
STOT - Single exposure:	No known effects.
STOT - Repeated exposure:	NOAEL/oral/rat/90 days >= 3000 mg/kg/day (OECD 408) (Based on results obtained from tests on analogous products)
Aspiration hazard:	May be fatal if swallowed and enters airways.

Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched

Acute oral toxicity:	LD50/oral/rat = 500 - 2000 mg/kg
Acute dermal toxicity:	LD50/dermal/rabbit > 2000 mg/kg
Acute inhalation toxicity:	No data available.
Skin corrosion/irritation:	Not irritating. (OECD 404)
Serious eye damage/eye irritation:	Causes serious eye irritation. (OECD 405)
Respiratory/skin sensitisation:	The results of testing on guinea pigs showed this material to be non-sensitizing.
Mutagenicity:	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.
Carcinogenicity:	Based on the absence of mutagenicity, it is unlikely that the substance is carcinogenic.
Reproductive toxicity:	Two-Generation Reproduction Toxicity (OECD 416) - NOAEL/rat > 250 mg/kg/day Prenatal Development Toxicity Study (OECD 414) - NOAEL/Maternal toxicity/rat > 50 mg/kg/day - NOAEL/Developmental toxicity/rat > 50 mg/kg/day
STOT - Single exposure:	No known effects.
STOT - Repeated exposure:	NOAEL/oral/rat/600 days = 50 mg/kg/day
Aspiration hazard:	No known effects.

SECTION 12: Ecological information

12.1. Toxicity

Information on the product as supplied:

Acute toxicity to fish:	LC50/Fish/96 hours = 10 - 100 mg/L (Estimated)
Acute toxicity to invertebrates:	EC50/Daphnia magna/48 hours = 10 - 100 mg/L (Estimated)
Acute toxicity to algae:	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.
Chronic toxicity to fish:	No data available.
Chronic toxicity to invertebrates:	No data available.
Toxicity to microorganisms:	No data available.
Effects on terrestrial organisms:	No data available.
Sediment toxicity:	No data available.

Relevant information on the hazardous components:

Distillates (petroleum), hydrotreated light

Acute toxicity to fish:	LC0/Oncorhynchus mykiss/96 hours > 1000 mg/L. (OECD 203)
Acute toxicity to invertebrates:	EC0/Daphnia magna/48 hours > 1000 mg/L (OECD 202)
Acute toxicity to algae:	IC0/Pseudokirchneriella subcapitata/72 hours > 1000 mg/L. (OECD 201)
Chronic toxicity to fish:	NOEC/Oncorhynchus mykiss/28 days > 1000 mg/L
Chronic toxicity to invertebrates:	NOEC/Daphnia magna/21 days > 1000 mg/L
Toxicity to microorganisms:	EC50/Tetrahymena pyriformis/ 48h > 1000 mg/L.
Effects on terrestrial organisms:	No data available.
Sediment toxicity:	No data available. Readily biodegradable, exposure to sediment is unlikely.

Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched

Acute toxicity to fish:	LC50/Cyprinus carpio/96 hours = 1 - 10 mg/L (OECD 203)

Acute toxicity to invertebrates:	EC50/Daphnia/48 hours = 1 - 10 mg/L (OECD 202)
Acute toxicity to algae:	IC50/Desmodesmus subspicatus/72 hours = 1 - 10 mg/L (OECD 201)
Chronic toxicity to fish:	No data available.
Chronic toxicity to invertebrates:	NOEC/Daphnia magna/21 days > 1 mg/L (OECD 202)
Toxicity to microorganisms:	EC10/activated sludge/17 hours > 10000 mg/L (DIN 38412-8)
Effects on terrestrial organisms:	No data available.
Sediment toxicity:	No data available.

12.2. Persistence and degradability

Information on the product as supplied:

Degradation:	Based on degradation data of components, this product is expected to be readily (bio)degradable.
Hydrolysis:	At natural pHs (>6) the polymer degrades due to hydrolysis to more than 70% in 28 days. The hydrolysis products are not harmful to aquatic organisms.
Photolysis:	No data available.

Relevant information on the hazardous components:

Distillates (petroleum), hydrotreated light

Degradation:	Readily biodegradable. 67.6% / 28 days (OECD 301 F) ; 68.8% / 28 days (OECD 306) ; 61.2% / 61 days (OECD 304 A)
Hydrolysis:	Does not hydrolyse.
Photolysis:	No data available.

Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched

Degradation:	Readily biodegradable. > 60% / 28 days (OECD 301 B)
Hydrolysis:	Does not hydrolyse.
Photolysis:	No data available.

12.3. Bioaccumulative potential

Information on the product as supplied:

The product is not expected to bioaccumulate.

Partition co-efficient (Log Pow): Not applicable.

Bioconcentration factor (BCF): No data available.

Relevant information on the hazardous components:

Distillates (petroleum), hydrotreated light

Partition co-efficient (Log Pow): 3 - 6

Bioconcentration factor (BCF): No data available.

Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched

Partition co-efficient (Log Pow): > 3

Bioconcentration factor (BCF): No data available.

12.4. Mobility in soil

Information on the product as supplied:

No data available.

Relevant information on the hazardous components:

Distillates (petroleum), hydrotreated light

Koc: No data available.

Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched

Koc: > 5000

12.5. Other adverse effects

None known.

SECTION 13: Disposal considerations

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products:

Dispose in accordance with local and national regulations.

Contaminated packaging:

Rinse empty containers with water and use the rinse-water to prepare the working solution. If recycling is not practicable, dispose of in compliance with local regulations. Can be landfilled or incinerated, when in compliance with local regulations.

Recycling:

Store containers and offer for recycling of material when in accordance with the local regulations.

SECTION 14: Transport information

Land transport (DOT)

Not classified.

Sea transport (IMDG)

Not classified.

Air transport (IATA)

Not classified.

SECTION 15: Regulatory information

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

Information on the product as supplied:

TSCA Chemical Substances Inventory:

All components of this product are either listed as active on the inventory or are exempt from listing.

US SARA Reporting Requirements:

SARA (Section 311/312) hazard class:
Not concerned.

SARA Title III Sections:

Section 302 (TPQ) - Reportable Quantity:
Not concerned.

Section 304 - Reportable Quantity:
Not concerned.

Section 313 (De minimis concentration):
Not concerned.

Clean Water Act

Section 311 Hazardous Substances (40 CFR 117.3) - Reportable Quantity:
Not concerned.

Clean Air Act

Section 112(r) Accidental release prevention requirements (40 CFR 68) - Reportable Quantity:
Not concerned.

CERCLA

Hazardous Substances List (40 CFR 302.4) - Reportable Quantity:
Not concerned.

RCRA status :

Not RCRA hazardous.

California Proposition 65 Information:

WARNING! This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm, Acrylamide

SECTION 16: Other information

NFPA and HMIS Ratings:

NFPA:

Health:	0
Flammability:	1
Instability:	0

HMIS:

Health:	0
Flammability:	1

Physical Hazard: 0
PPE Code: B

This data sheet contains changes from the previous version in section(s):

SECTION 8. Exposure controls/personal protection, SECTION 15. Regulatory information, SECTION 16. Other Information.

Key or legend to abbreviations and acronyms used in the safety data sheet:

Acronyms
STOT = Specific target organ toxicity

Abbreviations
Acute Tox. 4 = Acute toxicity Category Code 4
Asp. Tox. 1 = Aspiration hazard Category Code 1
Eye Dam 1 = Serious eye damage/eye irritation Category Code 1

Hazard statements
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H318 - Causes serious eye damage

Training advice:

Do not handle until all safety precautions have been read and understood.

This SDS was prepared in accordance with the following:

U.S. Code of Federal Regulations 29 CFR 1910.1200

Version: 19.01.a

ENCC046

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

COMPANY BACKGROUND:

Polydyne Inc., and SNF, Inc., is a fully integrated manufacturing company and produce several of our key raw materials. In addition, Polydyne Inc. is the only polymer supplier that offers a full range of polymers, i.e. powders, emulsions and solutions. Worldwide our company has been in operation for over 25 years.

EXPERIENCE & CAPABILITY:

As the largest supplier of water soluble polymers to the U.S. municipal market, Polydyne Inc.'s experience is both diverse and well-established. All of our nine strategically located manufacturing locations have been equipped with up-to-date manufacturing equipment and technology. A list of California references has been provided for your use in verifying our experience and capability.

WARRANTY:

Polydyne Inc. guarantees that the chemicals it proposes to furnish shall be of the highest quality and shall meet the intent of the specifications free from defects in material and workmanship.

Boyd Stanley
Vice-President

RESUME FOR KEY PERSONNEL

The Polydyne Inc. representative responsible for the City of Santa Rosa is Rawlin Castro. Mr. Castro holds a degree in Chemical Engineering from West Point and has twenty five years of experience in the flocculants industry. He is based in San Francisco to provide responsive on-site technical support to the Bay Area. Furthermore, he has application experience with Waste Activated Sludge Dewatering on Belt Filter Presses in wastewater treatment plants in Northern California. Mr. Castro is part of a five-person sales staff located on the west coast. Each of these representatives can provide additional technical support, if required. Mr. Castro has completed our in-house polymer make-down systems training and is a proficient instructor for operator-level classes in flocculant optimization and screening testing. His expertise in polymer chemistry ensures effective selection of alternative products to match seasonal water characteristic variations and his active involvement with WEFTEC allows him to keep abreast of the latest technologies in the industry. Contact information for Mr. Rawlin Castro is as follows:

Rawlin Castro, Regional Sales Manager
Address: 158 Granville Way, San Francisco, CA 94127
Phone: (415) 218-6089
Fax: (912) 880-2078
E-mail: rcastro@polydyneinc.com

Boyd Stanley
Vice-President

BUSINESS CONTINUATION PLAN

The polymers we plan to supply to the City of Santa Rosa manufactured at our Riceboro, GA facility. The primary danger to this facility is a direct strike by a hurricane. During the hurricane season, the weather in the tropics is constantly monitored. When an oncoming storm is determined to be a threat to our manufacturing facility, raw materials and finished product are shifted to other manufacturing facilities. Polydyne has eight other manufacturing facilities located across the United States. This actions ensures that polymer shipments will be uninterrupted and on time.

Anecdotally, in 2005 our Pearlington, Mississippi took a direct strike from Hurricane Katrina. A little over a month later this facility was fully functional and producing polymers for our customers again. During this outage, our orders were filled from the other eight manufacturing sites.

Boyd Stanley
Vice-President

City of Santa Rosa

REQUEST FOR PROPOSALS
19-74

DEWATERING POLYMER SUPPLY

Proposal Release Date
December 5, 2019

Proposal Submittal Due Date
January 8, 2020 by 4:00 p.m.
City of Santa Rosa
Finance Department – Purchasing Division
635 First Street, 2nd Floor
Santa Rosa, CA 95404

Contact Information
Tracy Vera, Buyer
(707) 543-3708
tvera@srcity.org

DEWATERING POLYMER SUPPLY

RFP 19-47

Sealed Proposals signed and in the original only, subject to the Request For Proposals, Provisions and Specifications, will be received at the City Purchasing Office located at 635 First Street, 2ND Floor, Santa Rosa, CA 95404 until **4:00 p.m., on January 8, 2020**.

Purpose

The City of Santa Rosa desires to solicit qualified proposals for the furnishing of dewatering polymer to the City of Santa Rosa to dewater approximately **5,000 dry tons** per year of anaerobically digested biosolids in accordance with the terms, conditions and work specifications contained herein. The term of this contract/blanket purchase order shall be for one year with the option for up to four (4) additional one-year terms.

Background and General Information

The City of Santa Rosa, a charter city with a population of approximately 175,000, was incorporated in 1868, is located 55 miles north of San Francisco, and is the county seat of Sonoma County. The City's Utilities Department operates the Laguna Subregional Wastewater Treatment Plant located at 4300 Llano Road, near Highway 116. The Laguna Treatment Plant is a tertiary-level treatment facility that treats wastewater from Santa Rosa, Rohnert Park, Cotati, Sebastopol, Sonoma State University, and the South Park Sanitation District. The service area has an estimated population of 230,000, and the plant treats an average dry weather flow of nearly 15 million gallons per day.

Estimated Schedule

*Release of RFP	December 5, 2019
*Proposals Due Date	January 8, 2020
*Proposal Evaluation & Product Qualification Testing	January 13-24, 2020
*Agreement/Blanket Purchase Order Document Processing	February 2020
*Award	March 2020

Proposal Process

Proposals will consist of technical and cost proposals, vendor qualifications/experience, and references. **One original and three copies of the complete proposal (technical and cost proposal, qualifications, and references) are required. cost proposals may be submitted together or separately. The original technical, and cost proposal (submitted as a separate sealed envelope) must be clearly marked and contain original signatures and must be easily reproducible on a standard copying machine.** Failure to clearly mark the original and provide original signatures may result in a proposal being found non-responsive and given no consideration.

Cost for Preparing Proposal - The cost for developing the proposal is the sole responsibility of the Contractor. All proposals submitted become the property of the City.

Confidentiality Requirements - The staff members assigned to this project may be required to sign a departmental non-disclosure statement. Proposals are subject to the Freedom of Information Act. The City cannot protect proprietary data submitted in proposals.

"All proposals, responses, inquiries, or correspondence relating to this RFP, and all reports, charts, and other documentation submitted by Contractor's (other than materials submitted as and qualifying as trade secrets under California Law as identified in the proposal) shall become the property of the City when received. The entire proposal shall be subject to the public records laws of the State of California except where a proper trade secrets exception has been made by the Contractor in accordance with the procedures allowed by California and Federal Law and marked in bold "Confidential."

Note: If proprietary/confidential information is identified in the original proposal, a redacted copy of the proposal must be submitted with the original and provided on a thumb drive, marked as "Redacted Copy". Otherwise, all proposals will be made subject to public record in its original form.

Technical Proposals

Proposals without sufficient submittal data to provide a complete evaluation will not be considered. Proposals must fully address the evaluation factors, complete technical submittal, references, and data to verify qualifications and experience. It is anticipated that the form of award will be a firm fixed-price contract or blanket purchase order. **Attachment A is a sample of a draft contract agreement and purchase order terms and conditions that would normally be used for this procurement, including Attachment One, the City's Insurance Requirements. Include a statement that your firm can or cannot accept the City's contract/purchase order terms and conditions and insurance requirements, and list any exceptions to these provisions**. Failure to provide the previously mentioned data may be sufficient reason to consider the proposal submitted as non-responsive.

At a minimum, Technical Proposals should address the following elements listed below in items A-F. Proposal should provide tabbed sections indicating Tab A, B, C, D, etc.:

The technical portion of the proposals will be weighted more heavily than the cost portion of the proposals.

A. Letter of Transmittal

The transmittal letter will:

- Indicate the intention of the Bidder to adhere to the provisions described in the RFP without modification;
- Identify the submitting organization;
- Identify the person, by name and title, authorized to contractually obligate the organization;
- Identify the contact person responsible for this response, specifying name, title, mailing address, phone, and email address;

- Acknowledge the proposal is considered firm for one hundred eighty (180) days after the due date for receipt of proposals or receipt of the last best and final offer submitted;
- Provide the original signature of the person authorized to contractually obligate the organization.

B. Product Qualification Testing and Evaluation

All proposed polymers must be tested and qualified by the City following the submittal of proposals. Proposing firms are required to submit quantities of their proposed polymer for evaluation at no cost to the City, including removal of evaluation sample containers upon completion of the testing. The qualification process shall include but not be limited to the following:

1. Eligible Vendors: Vendors may only submit polymers produced in their own plant and shipped in the original container. Blended or repackaged products of another company's manufacture will not be accepted and the proposal will be rejected.

2. Product Selection: The City shall select only one (1) polymer for the contract term. However, vendors may propose a maximum of two (2) polymers for the qualification testing. The proposed polymer shall be quoted at unit cost (see Exhibit C). The City will use the formula stated herein to determine the total contract cost for the polymer bid.

3. Laboratory Testing: By prior arrangement with Plant personnel, the Plant will be available to provide laboratory space for all vendors who request to test their polymers **prior to the proposal due date**, this is optional. It will be the responsibility of the vendors to determine the best polymer(s) they have available for the conditioning of the sludge. This process is not part of the evaluation for award. NOTE: The City requires vendors performing onsite testing to provide certificates of insurance in compliance with the requirements stated in Insurance Requirements (Attachment One.) To schedule laboratory testing, contact Brian Bokkin at bbokkin@srcity.org or 707-543-3417

4. The Qualification Test: All testing shall take place during the time period of January 13, 2020, through January 24, 2020. However, if a prospective bidder's proposed product arrives at the treatment plant prior to the product prequalification startup date, the vendor may request from the Treatment Superintendent to start their testing process early, and these requests will be granted if operating conditions so permit. No time extension shall be granted for the test process unless equipment failures, process upsets, or other conditions within the treatment plant beyond control of the vendor prevent completion of the scheduled test; in that event, the test will be rescheduled for the first available production day. Prospective bidders shall be assigned laboratory and field test schedules on a first-come, first-served basis. Each vendor will be granted a maximum of two days of test time for each product tested for a maximum of four days to complete the test(s). There will be no exception to this requirement. Vendors are urged to contact the City as soon as possible to assure acceptable test period scheduling.

The testing of all polymers will be performed and evaluated by City personnel only. (Note: No exceptions to this condition will be granted.) Each polymer will be tested equally under the same test conditions with no deviation from stated test conditions during the test period. A vendor representative may recommend adjustments to polymer delivery and solids dewatering to be made by City Staff to fully optimize the dewatering process. (Note: All tests will be performed Tuesday through Friday from 6:00 a.m. to 4:00 p.m.).

4.1. The vendor will be responsible for providing the following at no cost to the City:

a. Polymers in necessary quantities (in tote bins only) for the duration of the test period. Vendors shall be responsible, at no cost to the City, for the removal of all drums/containers and unused polymer prior to the bid opening. There shall be no exception to this requirement.

b. Any shipping cost to and from the City test location.

4.2. Vendors will become qualified when their product demonstrates the following:

a. Polymeric flocculants must produce a dewatered sludge cake of a minimum of 15.0% solids with not less than 95% recovery. Polymers that fail to meet these requirements will not be considered.

b. DOSAGE AND LOADING RATE FOR BID: The dosage rate corresponding to the capture and cake solids trial performance criteria, including product performance over a range of dosages and sludge feed rates, will be the basis for determining the total amount of product bid for one year.

c. Each vendor must submit a Certificate of Analysis that includes active product concentration as an addendum to this bid.

d. Each vendor will be granted two testing days per product tested. Each product test will begin with a two (2) hour tune-in period for product set up prior to the primary test; the tune-in shall begin promptly at 6:00 a.m. Each product will be tested at three (3) sludge feed rates, which will be 100, 125, and 150 gallons per minute (approximately 500 to 750 lbs/hr/m loading rate). Presses will be operated at each flow rate for approximately one hour after the system has stabilized. Samples will be grabbed after stabilization to determine the average cake solids and percent capture at each flow rate. Polymer usage will be measured by scale to determine polymer dose at each flow rate.

5. Final Evaluation: The operating data from the test, the quoted delivery price, and other information, as stated herein, will be evaluated by the City. Although a 15.0% total solids minimum cake concentration is herein specified, higher cake concentrations are desired, and operational and transportation savings resulting from higher cake concentrations will be a criterion in product evaluation. In the event that no vendor meets the minimum total solids requirement, the city will

cancel the bid process. The City intends to award a contract or blanket purchase order to the vendor that provides the best overall value to the City based on the Evaluation Formula below and the other evaluation criteria contained herein. Average values for each of three flow rate tests will be used for the analysis.

Evaluation Formula

Total polymer cost equals the product of the following:

Total Cost Formula = A*B*C + A*D/E

Where:
A) Plant Sludge Production (Dry Tons)
B) Polymer Dosage Requirement (Lbs/Dry Ton)
C) Bid Price for Polymer (Per Lb)
D) Hauling/Tipping Fees ($10/ Ton)
E) Demonstrated % Cake Solids (minimum of 15.0% solids is required)

6. Test Results: All test results will be forwarded to the office of the City Purchasing Agent for filing with the bid submittals. Said test results will be a critical factor in the Total Bid Price based on the Evaluation Formula. Test results (when available) may be obtained by calling City Buyer, Tracy Vera, (707) 543-3708.

C. Company Background, Experience, and Capability

Provide a narrative description of your ability to satisfactorily perform the required work by reasons of experience in performing work of a similar nature, demonstrated competence in the services to be performed, strength and stability of the firm, staffing capability, and record of meeting expectations on similar contracts. Provide a complete company profile including background history, years of experience, location and description of your production facility, description of equipment and technology used to perform the contract and resumes of key personnel that will support the contract. The City, at its option, may require a bidder to provide additional support and/or clarify the requested information.

D. Business Continuation Plan

Provide a narrative summary of your firm's business continuation plan and your capability to perform the contract work should your production facility that supplies the City with polymer become inoperable due to an accident, natural disaster, labor action, or other incidents that would stop production. Include information about the locations and capabilities of alternate facilities, the time required for work to resume at the alternate facilities, and how you will ensure that supplies of dewatering polymer will be delivered to the City in the event of the loss of your primary facility.

E. Cost Proposal

Proposed costs shall be listed in Exhibit C of the RFP. Prices quoted shall remain firm for a period of 180 days, and include all costs associated with delivering the polymer. Cost proposals shall be submitted as a separate schedule with the original and each copy of the offer and address all proposed items in detail. Sales tax must be applied and itemized only where applicable.

The City desires to establish a one-year term contract or blanket purchase order with four (4) one-year extension options for dewatering polymer supply. **NOTE:** The City may elect to consider a longer contract term if it is in the City's best interest. It is also desirable that the contract includes a fixed price for the first year of the contract term and clause that allows for price adjustments (up or down) for each one-year term of contract extension thereafter. The price adjustment shall be based on the Producer Price Index for Plastic Resins and Materials (Series ID: WPU066) published by the U.S. Bureau of Labor Statistics (BLS). Due to the delay by BLS in publishing the index each month, the following methodology will be used to calculate the percentage of change in the index:

Sixty (60) days prior to the expiration of the contract term, the percentage of change (+ or -) in the index for the prior twelve-month period published in the index will be added or subtracted to the initial contract unit price for polymer to determine the unit price for the next one-year term of contract extension.

Example: Most recent published index month sixty days prior to end of contract term = 219.1, index twelve months prior to most recent reported month = 209.7.1 (219.1 – 209.7 = 9.4 divided by 209.7 = .0448 X 100) = 4.5 % increase.

Subsequent price adjustment percentages will be added to or subtracted from the previously adjusted polymer unit price.

In your Cost Proposal, tell us if the above contract period and price adjustment clause is acceptable or not acceptable. Bidders may also propose alternate contract periods and price adjustment clauses. Provide the language and methodology for the alternate price adjustment contract clause, including the published index that future price adjustments will be based upon. Explain how your proposed contract period and price adjustment method benefits the City.

F. REFERENCES

Provide a list of at least ***five* (5)** references (California references preferred) for which you have provided services of a similar scope to those proposed. A minimum of three of the references should be Public Utilities. References are to include the agency name, address, contact person, title, phone number, and email address.

Evaluation of Proposals and Negotiations

A panel of City of Santa Rosa officials will review all proposals submitted and select the top proposals based on qualifications, technical merit, and product testing. Submitted cost data for these selected qualified Proposals will then be shared with the panel members.

The City may request **Best and Final** offers based upon an improved understanding of the offers or changed scope of work. Based on the initial proposals, the presentation, demonstration, and Best and Final offers, if requested, the panel will select the proposal which best fulfills the requirements and is the best value to the City. The City will negotiate with that seller to determine the final pricing and contract form. Because this proposal is negotiable, all pricing data will remain confidential until after award is made, and there will be no public opening and reading of Proposals. Overall responsiveness to the Request for Proposals is an important factor in the evaluation process.

Evaluation of the proposals is expected to be completed within 30 days after their receipt. The lowest price proposal *will not* necessarily be selected, and technical proposals will be weighed more heavily than costs to ensure that the City is procuring the best value versus lowest price.

The criteria upon which the evaluation of the proposals will be based are as follows:

- Overall responsiveness to and compliance with the Request for Proposal. Proposals must be neat, complete, and fully address technical, cost, vendor qualification, references, and evaluation concerns.
- Results of the product testing and evaluation performed by the City.
- The City's ability to form an acceptable contract agreement/blanket purchase order with the proposing firm. This will be determined solely by the City based on its evaluation of the contract terms offered by the proposing firm, including the term of the agreement/purchase order, price adjustment methodology, and any exceptions to the City's standard terms and conditions.
- Contract cost.

All proposals, offers, and counter-offers, prior to contract negotiation, will be extended through the City of Santa Rosa Purchasing Agent. Contract negotiations will be conducted by the Purchasing Agent or another party as noticed by the Purchasing Agent. Award will be by Board of Public Utilities Resolution. No other officer or agent may obligate or bind the City. Proposers will designate, by name, who will receive offers and counter-offers. The person named will be an authorized agent of Proposer able to conduct negotiations or written offers in good faith.

Vendor Inquiries

For information concerning RFP process and additional information, contact:	All arrangements for polymer evaluations and qualifications and pre-bid bench testing are to be made by contacting the following:
Tracy Vera, Buyer City of Santa Rosa – Purchasing 635 First Street, 2nd Floor Santa Rosa, CA 95404 (707) 543-3708 Voice tvera@srcity.org	Brian Bokkin Wastewater Treatment Superintendent 4300 Llano Road Santa Rosa, CA 95407 (707) 543-3417 Voice bbokkin@srcity.org

GENERAL PROVISIONS

Proposals: Firms are required to submit a proposal on **all** bid items. Proposal submittals which do not have all items bid will not be considered.

Cash discount must be shown on proposal; otherwise, prices will be considered net 30. Unless prices and all information requested are complete, proposal may be disregarded and given no consideration.

This Request for Proposals shall result in a firm, fixed-price contract/blanket purchase order.

In case of default by the firm, the City may procure the articles or services from other sources and may deduct from any monies due, or that may thereafter become due to the firm, the difference between the price named in the contract or blanket purchase order and the actual cost thereof to the City.

All prices and proposals must be in ink or typewritten. No pencil figures or erasures are permitted. Mistakes may be crossed out and corrections inserted adjacent thereto and must be initialed in ink by the person signing the proposal.

All proposals must be signed with the firm's name and by a responsible officer or employee. Obligations assumed by such signature must be fulfilled.

Submission of Proposals: Each proposal must be in the prescribed form and submitted in a sealed envelope. The outside of the envelope must be noted with the assigned proposal number and the closing date and time.

Information must be furnished complete in compliance with the terms, conditions, provisions, and specifications of the Request for Proposals. The information requested and the manners of submission are essential to permit prompt evaluation of all proposals on a fair and uniform basis.

Accordingly, the City reserves the right to declare as non-responsive and reject any proposal in which material information requested is not furnished or where indirect or incomplete answers or information is provided.

Proposals and modifications or corrections thereof received after the closing time specified will not be considered.

Proposals shall be for the total net price, including all applicable taxes and charges.

No telegraphic, telephone, or facsimile of proposals will be accepted. If a photocopy is to be submitted, it must be signed in original, in ink.

If you do not bid, return this Request for Proposals and state reason; otherwise your name may be removed from our mailing list.

Proposal Postponement and Addendum: The City of Santa Rosa reserves the right to revise or amend the specifications or any other part of the proposal up to the time set for opening. Such revisions and amendments, if any, shall be announced by addendum to this solicitation. Copies of such addendums shall be furnished to all prospective Contractors. Prospective Contractors are defined as those listed on the City Request for Proposals list for this material/service or who have obtained his documents subsequent to the advertisement. If revisions and amendments require changes in quantities or prices proposed, or both, the date set for opening of proposals may be postponed by such number of days as in the opinion of the City shall enable Contractors to revise their proposals. In any case, the proposal opening shall be at least five (5) working days after the last addendum; and the addendum shall include an announcement of the new date, if applicable, for the opening of proposals.

Single Proposal Response: If only one proposal is received in response to the Request for Proposals, a detailed cost proposal may be requested of the single Contractor. A cost/price analysis and evaluation and/or audit may be performed of the cost proposal in order to determine if the price is fair and reasonable.

Proposal Withdrawal: After the proposals are opened, proposals may not be withdrawn for ninety (90) calendar days. Prior to the date and time set for the proposal opening, however, proposals may be modified or withdrawn by the Contractor's authorized representative in person, or by written telegraphic notice. If proposals are modified or withdrawn in person, the authorized representative shall make his identity known and shall sign a receipt for the proposal. Written or electronic notices shall be received in the office of the Buyer indicated as the City contact no later than the exact date and time for the proposal opening.

Firm Investigation: Before submitting a proposal, each firm shall make all investigations and examinations necessary to ascertain all conditions and requirements affecting the full performance of the contract and to verify any representations made by the City upon which the vendor will rely. If the firm receives an award as a result of its proposal submission, failure to have made such investigations and examinations will in no way relieve the firm from its obligation to comply in every detail with all provisions and requirements of the contract. A plea of ignorance of such conditions and requirements will not be accepted as a basis for any claim whatsoever by the firm for additional compensation.

Competency of Firms: No proposal will be accepted from or contract awarded to a firm: (1) who is not licensed in accordance with the law, (2) who does not hold a license to perform work under this contract to whom a proposal form has not been provided and (3) who has not successfully performed on projects of similar character and scope. Before the award of any contract, the firm may be required to show to the complete satisfaction of the City that it has the necessary facilities, ability, experience, and financial resources to provide the services specified herein in a satisfactory manner. Generally at a minimum, the firm history and references are required. The City may make reasonable investigations deemed necessary and proper to determine the ability of a firm to perform the work. The firm shall furnish the City all information requested for this purpose.

Award: The City reserves the right to (1) reject any and all proposals, (2) waive any informality in the proposals and (3) accept the proposal that appears to be in the best interest of the City. The City intends to award to a single firm.

In determining and evaluating the best proposal, the prices will not necessarily be controlling, but quality, equality, efficiency, utility, general terms, delivery, suitability of the service offered, and the reputation of the service in general use will also be considered with any other relevant factors.

Notice of contract award, if contract be awarded, will be made within ninety (90) days of opening of proposals to the firm, whose proposal complies with all the requirements in the Request for Proposals and is found to be the best value to the City.

Within ten (10) days from notice of contract award, the firm shall submit to the City, for approval all Certificates of Insurance evidencing the required coverage as described under Insurance in the City Sample Contract "Attachment A."

The firm shall not commence work under the terms and conditions of the contract until (1) all Certificates of Insurance have been approved by the City and (2) the firm has received Notice to Proceed (in writing) with an executed copy of the contract from the City of Santa Rosa Purchasing Agent.

Contract Administration: Except as otherwise specifically provided in this Request for Proposals and the resulting Purchase Contract, any notice, submittal or communication required or permitted to be served on a party hereto, may be served by personal delivery to the person or the office of the person identified. Service may also be made by placing a notice, submittal or communication in an envelope with the proper first-class postage affixed thereto and addressed as indicated, and depositing said envelope in the United States mail.

Retention of Records: The firm shall be required to retain any records necessary to document the charges for goods to be provided or services to be performed and make such records available to the City for inspection at the City request for a period of four (4) years.

Non-Collusion Affidavit: By signing and submitting a proposal, the firm declares that:

- the proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation;
- the proposal is genuine and not collusive or sham;
- directly or indirectly has not induced or solicited any other firm to put in a false or sham proposal,
- directly or indirectly has not colluded, conspired, connived, or agreed with any firm or anyone else to put in a sham proposal, or that anyone shall refrain from bidding;

- the firm has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the proposal price of the firm or any other Contractor, or to fix any overhead, profit, or cost element of the proposal price, or of that of any other firm, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract;
- all statements contained in the proposal are true; and, further,
- directly or indirectly, has not submitted his or her proposal price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, proposal depository, or to any member or agent thereof to effectuate a collusive or sham proposal.

Proposal Contents: This proposal consists of the Request for Proposals, Provisions, Specifications, Attachments, and other terms and conditions as are attached or incorporated by reference in the schedule of the Request for Proposals.

ATTACHMENT A

SAMPLE AGREEMENT

CITY OF SANTA ROSA
GENERAL SERVICES AGREEMENT
WITH [NAME OF CONTRACTOR]
AGREEMENT NUMBER _____

This "Agreement" is made as of this ____day of_____, 2020 [leave date blank until all parties have signed or until Council approves], by and between the City of Santa Rosa, a municipal corporation ("City"), and [add Contractor's full name, for example, "XYZ Sales Corporation" or "ABC Contracting, LLC" or "ABC Enterprises, LP", or "John Smith, dba Smith Contracting"] a [add type of legal entity and state of entity formation or incorporation, for example, a "California Corporation," or a "Delaware Limited Liability Company," or a "Nevada Limited Partnership," or a" sole proprietor"] ("Contractor").

RECITALS

A. City desires to [enter brief description of the services needed by City].

B. City desires to retain a qualified contractor to conduct the services described above in accordance with the terms of this Agreement.

C. Contractor represents to City that it is fully qualified to conduct the services described above.

D. The parties have negotiated upon the terms pursuant to which Contractor will provide such services and have reduced such terms to writing.

AGREEMENT

NOW, THEREFORE, City and Contractor agree as follows:

1. SCOPE OF SERVICES

Contractor shall provide to City the services described in Exhibit A ("Scope of Services") [attach either City's description of the services to be provided or Contractor's proposal and mark as Exhibit A]. Contractor shall provide these services at the time, place, and in the manner specified in Exhibit A. Exhibit A is attached hereto solely for the purpose of defining the manner and scope of services to be provided by Contractor and is not intended to, and shall not be construed so as to, modify or expand the terms, conditions or provisions contained in this Agreement. The parties agree that any term

contained in Exhibit A that adds to, varies or conflicts with the terms of this Agreement is null and void.

2. TIME FOR PERFORMANCE

The services described herein shall be provided [during the period, or in accordance with the schedule, set forth in the Scope of Services] or [during the following period [or schedule] - _____]. Contractor shall devote such time and effort to the performance of services as is necessary for the satisfactory and timely performance of Contractor's obligations under this Agreement. Neither party shall be considered in default of this Agreement, to the extent that party's performance is prevented or delayed by any cause, present or future, that is beyond the reasonable control of that party.

3. STANDARD OF PERFORMANCE

Contractor shall perform all services required under this Agreement in the manner and according to the standards currently observed by a competent practitioner of Contractor's occupation in California. All products and services of whatsoever nature that Contractor provides to City pursuant to this Agreement shall conform to the standards of quality normally observed by persons currently practicing in Contractor's occupation, and shall be provided in accordance with any schedule of performance specified in Exhibit A. Contractor shall assign only competent personnel to perform services pursuant to this Agreement. In the event that City, at any time during the term of this Agreement, desires the removal of any person assigned by Contractor to perform services pursuant to this Agreement, because City, in its sole discretion, determines that such person is not performing in accordance with the standards required herein, Contractor shall remove such person immediately upon receiving notice from City of the desire of City for the removal of such person.

4. COMPENSATION

The total of all fees paid to Contractor for the satisfactory performance and completion of all services set forth in Exhibit A shall not exceed the total sum of $_____. The Chief Financial Officer is authorized to pay all proper claims from Charge Number _____.

5. BILLABLE RATES, PAYMENTS TO CONTRACTOR

a. Billable Rates. Contractor shall be paid for the performance of services at [an hourly rate, daily rate, flat fee, lump sum or other basis], as set forth in Exhibit [A] or [B]. (If rates not in an Exhibit A or B, state them here and remove reference to Exhibit below)

b. Payments. Payments will be delayed where Contractor fails to provide the information required under subsection c. below or fails to comply with the insurance requirements in Attachment One to this Agreement. In no event shall the City be obligated to pay late fees or interest, whether or not such requirements are contained in Contractor's invoice.

c. Invoices. Payment will be made on a calendar-month basis in arrears. Invoices shall be submitted to the person and address specified in the Agreement, bid, or purchase order. In the event this Agreement becomes effective or terminates during the course of a month, the amount paid to the Contractor for the partial month shall be determined by prorating the amount on the basis of the number of calendar days involved. Processing of payment will be delayed for Contractor's failure to include reference to Agreement (including number) on the invoice **and for failure to maintain current insurance information with the City in accordance with insurance requirements hereunder.** In no event shall City be obligated to pay late fees or interest, whether or not such requirements are contained in the Contractor's invoice. Invoices for services provided in June or for any services not previously invoiced shall be submitted within 10 working days after June 30 to facilitate City fiscal year end closing. Failure to comply with this invoice submission requirement may delay payment.

In connection with any cash discount specified in the bid response, if applicable, or Contractor's Proposal, time will be computed from the date correct invoices are received by the person and address specified in the Agreement, bid, or purchase order. For the purpose of earning the discount, payment is deemed to be made on the date of mailing of the City warrant or check. All invoices shall contain the following information:

1. Contractor name and remittance address
2. Date of invoice issuance
3. Amount of invoice
4. City purchase order or Agreement number
5. Identification of Agreement or purchase order line item(s) (if multiple lines) and description of services provided
6. Date of completion of services
7. Detail of costs, including labor, materials, tax, etc.

d. Business Taxes. Contractor shall pay to the City when due all business taxes payable by Contractor under the provisions of Chapter 6-04 of the Santa Rosa City Code. The City may deduct any delinquent business taxes, and any penalties and interest added to the delinquent taxes, from its payments to Contractor.

6. TERM, SUSPENSION, TERMINATION

a. The term of this Agreement shall be for [one year], commencing on the date it is made above. City and Contractor may, upon mutual written agreement of both parties, extend this Agreement for up to four (4) additional one-year terms.

b. City shall have the right at any time to temporarily suspend Contractor's performance hereunder, in whole or in part, by giving a written notice of suspension to Contractor. If City gives such notice of suspension, Contractor shall immediately suspend its activities under this Agreement, as specified in such notice.

c. City shall have the right to terminate this Agreement for convenience at any time by giving a written notice of termination to Contractor. If City gives such notice of termination, Contractor shall immediately cease rendering services pursuant to this Agreement. If City terminates this Agreement, City shall pay Contractor the reasonable value of services rendered by Contractor prior to termination. In this regard, Contractor shall furnish to City such information as in the judgment of the City is necessary for City to determine the reasonable value of the services rendered by

Contractor. City shall not in any manner be liable for lost profits that might have been made by Contractor had the Agreement not been terminated or had Contractor completed the services required by this Agreement.

7. TERMINATION OF AGREEMENT FOR DEFAULT

If at any time 1) Contractor fails to conform to the requirements of this Agreement; 2) Contractor seeks relief under any law for the benefit of insolvents or is adjudicated bankrupt; 3) any legal proceeding is commenced against Contractor which may interfere with the performance of this Agreement; or 4) Contractor has failed to supply an adequate working force, or materials of proper quality, or has failed in any other respect to prosecute the work with the diligence and force specified and intended in and by the terms of this Agreement, which default is not fully corrected or remedied to the reasonable satisfaction of City within ten (10) days following the date a written notice thereof by City, then City shall have the right and power, at its option and without prejudice to any other rights or remedies it may have, to immediately terminate this Agreement. Any cost or expense incurred by City arising out of Contractor's breach or default hereunder, and for City's enforcement of these rights, shall be the obligation of Contractor and may, at City's discretion, be deducted from any amounts that may then be owing to Contractor under this Agreement, without any release or waiver of any other rights or remedies in law or equity to which City may be entitled.

8. INDEMNIFY AND HOLD HARMLESS AGREEMENT

Contractor shall indemnify, defend and hold harmless City and its employees, officials, and agents, from and against any liability, (including liability for claims, suits, actions, arbitration proceedings, administrative proceedings, regulatory proceedings, losses, expenses or costs of any kind, whether actual, alleged or threatened, interest, defense costs, and expert witness fees), where the same results from or arises out of the performance of this Agreement by Contractor, its officers, employees, agents, or sub-contractors, excepting only that resulting from the sole, active negligence or intentional misconduct of City, its employees, officials, or agents. This indemnification obligation is not limited in any way by any limitation on the amount or type of damages or compensation payable to or for Contractor or its agents under workers' compensation acts, disability benefits acts, or other employees' benefits acts. The provisions of this Section 8 shall survive any expiration or termination of this Agreement.

9. INSURANCE REQUIREMENTS

Contractor shall maintain in full force and effect all of the insurance coverage described in, and in accordance with, Attachment One, "Insurance Requirements", which is attached hereto and hereby incorporated herein by this reference. Maintenance of the insurance coverages as set forth in Attachment One is a material element of this Agreement and a material part of the consideration provided by Contractor in exchange for the City's agreement to make the payments prescribed hereunder. Failure by Contractor to (i) maintain or renew coverage, (ii) provide the City notice of any changes, modifications, or reductions in coverage, or (iii) provide evidence of renewal, may be treated by the City as a material breach of this Agreement by Contractor, whereupon the City shall be entitled to all rights and remedies at law and in equity, including but not limited to the immediate termination of this Agreement. Notwithstanding the foregoing, any failure by Contractor to maintain required insurance

coverage shall not excuse or alleviate Contractor from any of its other duties or obligations under this Agreement. In the event Contractor, with approval of the City pursuant to Section 11 below, retains or utilizes any subcontractors in the provision of any services to City under this Agreement, Contractor shall assure that any such subcontractor has first obtained, and shall maintain, all of the insurance coverage requirements set forth in Attachment One.

10. LEGAL REQUIREMENTS AND PERMITS; NONDISCRIMINATION

a. Legal Requirements and Permits. Contractor represents and warrants that Contractor has all licenses, permits, City Business Tax Certificate, qualifications, and approvals of whatsoever nature that are legally required for Contractor to practice its occupation and provide services under this Agreement. Contractor shall perform all services described herein in compliance with all applicable federal, state and local laws, rules, regulations, and ordinances, including but not limited to, (i) the Americans With Disabilities Act (ADA) of 1990, (42 U.S.C. 12101, et seq.), and any regulations and guidelines issued pursuant to the ADA, which prohibits discrimination against individuals with disabilities and may require reasonable accommodations; (ii) and Labor Code Sections 1700-1775, which require prevailing wages (in accordance with DIR schedule at www.dir.ca.gov) be paid to any employee performing work covered by Labor Code Section 1720 et seq.; (iii) OSHA; and (iv) the Immigration Reform and Control Act of 1986. Contractor shall, if requested by City, provide certification and evidence of such compliance. If Contractor is an out-of-state corporation, Contractor warrants and represents that it possesses a valid certificate of qualification to transact business in the State of California issued by the California Secretary of State pursuant to Section 2105 of the California Corporations Code.

b. Non-Discrimination. With respect to the provision of goods or services under this Agreement, Contractor agrees not to discriminate against any person because of the race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status of that person.

11. ASSIGNMENT AND SUBCONTRACTING

Contractor shall not subcontract or assign any right or obligation under this Agreement without the written consent of the City. Any attempted or purported subcontract or assignment without City's written consent shall be void and of no effect. No right under this Agreement, or claim for money due or to become due hereunder, shall be asserted against the City, or persons acting for the City, by reason of any so-called assignment of this Agreement or any part thereof and Contractor hereby agrees to indemnify and hold City harmless against any and all such claims. In the event Contractor obtains the prior written consent of City to assign monies due or to become due under this Agreement, Contractor shall provide City a copy of the instrument of assignment duly executed by Contractor, which shall contain a clause subordinating the claim of the assignee to all prior liens for services rendered or materials supplied for the performance of work. Upon notice and request by the City, Contractor shall promptly

remedy, to include termination of any subcontract as appropriate and necessary, any default or failure to perform in a satisfactory manner the work undertaken by any subcontractor. Contractor shall be fully responsible and accountable to the City for the acts and omissions of its subcontractors, and of persons directly or indirectly employed by them, to the same extent that Contractor is for the acts and omissions of persons directly employed by Contractor. Nothing contained in this Agreement shall create any contractual relation between any subcontractor and the City.

12. BINDING EFFECT

This Agreement shall be binding on the heirs, executors, administrators, successors, and assigns of the parties, subject to the provisions of Section 11, above.

13. RETENTION OF RECORDS

Contractor shall be required to retain any records necessary to document the charges for the services to be performed under this Agreement and make such records available to the City for inspection at the City's request for a period of not less than four (4) years.

14. ENTIRE AGREEMENT

This document, including all Exhibits and Attachment One, contains the entire agreement between the parties and supersedes whatever oral or written understanding the parties may have had prior to the execution of this Agreement. No alteration to the terms of this Agreement shall be valid unless approved in writing by Contractor, and by City, in accordance with applicable provisions of the Santa Rosa City Code.

15. SEVERABILITY

If any portion of this Agreement or the application thereof to any person or circumstance shall be held invalid or unenforceable, the remainder of this Agreement shall not be affected thereby and shall be enforced to the greatest extent permitted by law.

16. WAIVER

Neither City acceptance of, or payment for, any service performed by Contractor, nor any waiver by either party of any default, breach or condition precedent, shall be construed as a waiver of any provision of this Agreement, nor as a waiver of any other default, breach or condition precedent or any other right hereunder.

17. ENFORCEMENT OF AGREEMENT

This Agreement shall be governed, construed and enforced in accordance with the laws of the State of California. Venue of any litigation arising out of or connected with this Agreement shall lie exclusively in the state trial court located in Sonoma

County in the State of California, and the parties consent to jurisdiction over their persons and over the subject matter of any such litigation in such court, and consent to service of process issued by such court.

18. CONTRACTOR NOT AGENT

Except as City may specify in writing, Contractor and Contractor's personnel shall have no authority, express or implied, to act on behalf of City in any capacity whatsoever as an agent. Contractor and Contractor's personnel shall have no authority, express or implied, to bind City to any obligations whatsoever.

19. INDEPENDENT CONTRACTOR

a. It is understood and agreed that Contractor (including Contractor's employees) is an independent contractor and that no relationship of employer-employee exists between the parties hereto for any purpose whatsoever. Neither Contractor nor Contractor's assigned personnel shall be entitled to any benefits payable to employees of City. City is not required to make any deductions or withholdings from the compensation payable to Contractor under the provisions of this Agreement, and Contractor shall be issued a Form 1099 for its services hereunder. As an independent contractor, Contractor hereby agrees to indemnify and hold City harmless from any and all claims that may be made against City based upon any contention by any of Contractor's employees or by any third party, including but not limited to any state or federal agency, that an employer-employee relationship or a substitute therefor exists for any purpose whatsoever by reason of this Agreement or by reason of the nature and/or performance of any services under this Agreement.

b. It is further understood and agreed by the parties hereto that Contractor, in the performance of Contractor's obligations hereunder, is subject to the control and direction of City as to the designation of tasks to be performed and the results to be accomplished under this Agreement, but not as to the means, methods, or sequence used by Contractor for accomplishing such results. To the extent that Contractor obtains permission to, and does, use City facilities, space, equipment or support services in the performance of this Agreement, this use shall be at the Contractor's sole discretion based on the Contractor's determination that such use will promote Contractor's efficiency and effectiveness. Except as may be specifically provided elsewhere in this Agreement, the City does not require that Contractor use City facilities, equipment or support services or work in City locations in the performance of this Agreement.

c. If, in the performance of this Agreement, any third persons are employed by Contractor, such persons shall be entirely and exclusively under the direction, supervision, and control of Contractor. Except as may be specifically provided

elsewhere in this Agreement, all terms of employment, including hours, wages, working conditions, discipline, hiring, and discharging, or any other terms of employment or requirements of law, shall be determined by Contractor. It is further understood and agreed that Contractor shall issue W-2 or 1099 Forms for income and employment tax purposes, for all of Contractor's assigned personnel and subcontractors.

d. The provisions of this Section 19 shall survive any expiration or termination of this Agreement. Nothing in this Agreement shall be construed to create an exclusive relationship between City and Contractor. Contractor may represent, perform services for, or be employed by such additional persons or companies as Contractor sees fit.

20. NOTICES

Except as otherwise specifically provided in this Agreement, any notice, submittal or communication required or permitted to be served on a party hereto, may be served by personal delivery to the person or the office of the person identified below. Service may also be made by mail, by placing first-class postage affixed thereto, and addressed as indicated below, and depositing said envelope in the United States mail to:

City	**Contractor**
Brandalyn Tramel Purchasing Agent 635 First Street, 2nd Floor Santa Rosa, California 95404 Phone: (707) 543-3706 Fax: (707) 543-3723	_____ _____ _____ _____ _____ _____

21. AUTHORITY; SIGNATURES REQUIRED FOR CORPORATIONS

Contractor hereby represents and warrants to the City that it is (a) a duly organized and validly existing [enter type of entity], formed and in good standing under the laws of the State of [enter state of formation for corporations, LPs and LLCs], (b) has the power and authority and the legal right to conduct the business in which it is currently engaged, and (c) has all requisite power and authority and the legal right to consummate the transactions contemplated in this Agreement. Contractor hereby further represents and warrants that this Agreement has been duly authorized, and when executed by the signatory or signatories listed below, shall constitute a valid agreement binding on Contractor in accordance with the terms hereof.

If this Agreement is entered into by a corporation, it shall be signed by two corporate officers, one from each of the following two groups: a) the chairman of the board, president or any vice-president; b) the secretary, any assistant secretary, chief financial officer, or any assistant treasurer. The title of the corporate officer shall be listed under the signature.

Executed as of the day and year first above stated.

CONTRACTOR:

Name of Firm:_____

TYPE OF BUSINESS ENTITY *(check one)*:
_____ Individual/Sole Proprietor
_____ Partnership
_____ Corporation
_____ Limited Liability Company
_____ Other (please specify: _____)

Signatures of Authorized Persons:

By: _____

Print Name:_____

Title: _____

By: _____

Print Name:_____

Title: _____

CITY OF SANTA ROSA
a Municipal Corporation

By:_____

Print Name:_____

Title:_____

APPROVED AS TO FORM:

_____
Office of the City Attorney

ATTEST:

_____
City Clerk
[Remove signature block if agreement not approved by Council]

City of Santa Rosa Business Tax Cert. No.

_____

Attachments:

Attachment One - Insurance Requirements
Exhibit A - Scope of Services or Contractor's Proposal
Exhibit B – Compensation/Rates (If applicable, remove if not required)

CITY OF SANTA ROSA
PURCHASE ORDER
TERMS AND CONDITIONS

1. ORDER ACKNOWLEDGEMENT: Seller's (or Contractor in the event services are being provided) commencement of work or delivery shall be deemed acceptance of the terms and conditions of the Purchase Order ("Order"). The Seller shall furnish the City of Santa Rosa ("City") Purchasing Agent, within ten days of the Order date, written Order acceptance. The Order, and these "Terms and Conditions," together with any attachments, constitutes the entire agreement between the parties. Any terms proposed in Seller's acceptance of City's Order which add to, vary from or conflict with the terms herein are null and void. No waiver, modification or addition to the terms of this Order shall be valid unless in writing and made in accordance with Section 2, CHANGE ORDER below.

2. CHANGE ORDER: The City may at any time prior to the delivery date specified herein, issue a written change order for the modification of the Order. Such modification(s) shall be the result of negotiation and agreement between both parties. No change in this Order shall be made unless the City gives its prior written approval. Seller shall be liable for all direct and consequential damages resulting from any unauthorized changes to the Order.

3. ASSIGNMENT AND SUBCONTRACTING: Seller shall not assign or subcontract the Order, or any part thereof, without the previous written consent of City, nor shall Seller assign, by power of attorney or otherwise, any of the money payable under this Order unless the prior written consent of the City has been obtained. No right under this Order, nor any claim for money due, or to become due hereunder, shall be asserted against the City, or persons acting for the City, by reason of any so called assignment of this Order or any part thereof, or to become due under this Order. The instrument of assignment shall contain a clause subordinating the claim of the assignee to all prior liens for services rendered or goods supplied.

   Should any subcontractor fail to perform in a satisfactory manner the work undertaken by subcontractor, the subcontract shall be immediately terminated by Seller upon notice from the City. Seller shall be fully responsible and accountable to the City for the acts and omissions of any subcontractors, and of persons directly or indirectly employed by the subcontractor, as it is for the acts and omissions of persons directly employed by Seller. Nothing contained herein shall create any contractual relationship between any subcontractor and the City.

4. DELIVERY: All ordered goods shall be delivered F.O.B. destination, delivery charges prepaid, unless otherwise shown on the front of the Order. The goods shall be delivered to the location below unless otherwise shown on the front of the Order:

CITY OF SANTA ROSA
MUNICIPAL SERVICE CENTER WAREHOUSE
55 STONY POINT ROAD
SANTA ROSA, CA 95401

Delivery will be made on or before the date indicated on the front of the Order. Seller shall be liable for damages resulting from Seller's failure to deliver by the delivery date or in conformance with this Order. Goods or the tender of delivery that fail in any respect to conform to the Order will not be accepted unless the City gives its written acceptance.

5. INSPECTION: The City reserves the right before payment or acceptance to inspect all goods and workmanship, and shall have the right to reject all goods and workmanship that do not conform to the Order, provided; however, the City is under no duty to make such inspection. The City reserves the right to extend the date of acceptance of goods or workmanship in the event it determines that the nonconforming goods or workmanship can be seasonably cured.

6. TITLE: Title to goods shall pass to the City at the F.O.B. point designated under Section 4 DELIVERY, subject to the City's right to reject the goods.

7. ACCEPTANCE AND PAYMENT: Acceptance shall be made when the City determines the goods or services conform to the Order, or when City notifies Seller that it will accept the goods or services despite nonconformity. Unless otherwise stated in the Order, payment terms are net 30 days. In no event shall City be obligated to pay late fees or interest, whether or not such requirements are contained in Seller's invoice. Payment will be scheduled upon complete delivery and acceptance of all goods or services and receipt of an original and one copy of an invoice acceptable to the City. Invoices for goods or services provided in June or for any goods or services not previously invoiced shall be submitted to City no later than July 10 to facilitate City fiscal year end closing. The City reserves the right to withhold up to ten (10%) percent of the Order price in the event it conditionally accepts nonconforming goods or services. In connection with any cash discount specified in the Order, time will be computed from the date of the complete acceptance of the goods or services, or from the date correct invoices are received at the location specified on the Order, whichever date is later. For the purpose of earning the discount, payment is deemed to be made on the date of mailing of the City warrant or check.

8. MATERIALS: Unless otherwise specified in the Order, materials used shall be of new and recent manufacture and of best quality.

9. WARRANTY: Seller warrants that all goods and services provided to City are free from defects. At no cost to the City, Seller shall furnish and install all parts and pay any costs to repair goods or materials damaged by defective workmanship during Seller's and Manufacturer's warranty periods.

10. TERMINATION OF CONTRACT TO PURCHASE: If at any time: 1) Seller fails to conform to the requirements of the Order or breaches any of these Terms and Conditions; 2) Seller seeks relief under any law for the benefit of insolvents or is adjudicated bankrupt; 3) any legal proceeding is commenced against Seller which may interfere with Seller's performance hereunder; or 4) Seller has failed to supply an adequate working

force, or material of proper quality, or has failed to deliver goods or in any other respect to prosecute the work with the diligence and force specified and intended herein, notice thereof may be served in writing upon Seller, and should Seller reject or refuse to provide the means for the satisfactory conformance with the Order as directed by the Purchasing Agent within the time specified in such notice, the City in any such case shall have the right and power at its option and without prejudice to any other right it may have, to terminate the Order.

11. TERMINATION FOR CONVENIENCE: The Order may be terminated by the City by giving ten (10) days notice to Seller in writing of its intent to terminate the Order. Upon such termination, Seller shall submit to the City an itemized statement of services performed or goods delivered as of the termination date. City shall not in any manner be liable for lost profits that might have been made by Seller had the Order not been terminated or had Seller completed the services required by the Order.

12. LEGALITY: If any provision of the Order is held to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

13. CALIFORNIA LAW; VENUE: The Order shall be governed according to the laws of the State of California. The adjudication of any disputes related to the Order shall occur exclusively and solely in Sonoma County.

14. COMPLIANCE WITH LAWS AND REGULATIONS: Seller represents and warrants that Seller has all licenses, permits, a City Business Tax Certificate, qualifications, and approvals of whatsoever nature that are legally required for Seller to provide goods and/or services under the Order. Seller shall comply with all applicable federal, state and local laws, rules, regulations, and ordinances, including but not limited to, (i) the Americans With Disabilities Act (ADA) of 1990, (42 U.S.C. 12101, et seq.), and any regulations and guidelines issued pursuant to the ADA, which prohibits discrimination against individuals with disabilities and may require reasonable accommodations; (ii) and Labor Code Sections 1700-1775, which require prevailing wages (in accordance with DIR schedule at www.dir.ca.gov) be paid to any employee performing work covered by Labor Code Section 1720 et seq.; (iii) California Occupational Safety and Health Administration (Cal/OSHA) regulations; and (iv) the Immigration Reform and Control Act of 1986. Seller shall, if requested by City, provide certification and evidence of compliance. If Seller is an out-of-state corporation, Seller warrants and represents that it possesses a valid certificate of qualification to transact business in the State of California issued by the California Secretary of State pursuant to Section 2105 of the California Corporations Code.

15. PATENTS AND ROYALTIES: All costs, fees, royalties and claims for any patented invention, article, process or method that may be used upon or in any manner connected with the supply of goods herein shall be paid by Seller. Should Seller, its agents or employees or any of them be enjoined from furnishing or using any invention, article, material or plans supplied or required to be supplied or used under the terms herein, Seller shall promptly substitute other articles, materials or appliances in lieu thereof of

equal finish, efficiency, quality, suitability and market value and satisfactory in all respects to City. In the event that City elects, in lieu of such substitution, to have supplied and to retain and use any inventions, articles, materials, or plans as may be required to be supplied, Seller shall pay such royalties and secure such valid licenses as may be requisite for City, its officers, agents and employees, or any of them to use such invention, article, materials or appliances without being disturbed or in any way interfered with by any proceeding at law or equity on account thereof. Should Seller neglect or refuse to make the substitution promptly or to pay such royalties and secure such licenses as may be necessary, then City shall have the right to make such substitution or City may pay such royalties and secure such licenses and charge the Seller even though final payment under the contract may have been made.

16. INDEMNIFY AND HOLD HARMLESS AGREEMENT: Seller shall indemnify, defend and hold harmless City and its employees, officials, and agents, from and against any liability, (including liability for claims, suits, actions, arbitration proceedings, administrative proceedings, regulatory proceedings, losses, expenses or costs of any kind, whether actual, alleged or threatened, interest, defense costs, and expert witness fees), where the same arises out of the performance of this Order by Seller, its officers, employees, agents, or subcontractors, excepting only that resulting from the sole active negligence or intentional misconduct of City, its employees, officials, or agents. This indemnification obligation is not limited in any way by any limitation on the amount or type of damages or compensation payable to or for Seller or its agents, under workers' compensation acts, disability benefits acts or other employees' benefits acts. Seller shall be liable to City for any loss of or damage to City property arising from Seller's negligence or willful misconduct.

17. RETENTION OF RECORDS: Seller shall be required to retain any records necessary to document the charges for goods provided and services performed and make such records available to City for inspection at the City's request for a period of four years.

18. PERFORMANCE OF SERVICES: With respect to the performance of services under this Order, Seller shall perform all services in a manner consistent with the level of competency and standard of care normally observed by a person practicing in Seller's trade or profession. Seller hereby warrants that all work will be performed in accordance with generally accepted and applicable professional practices and standards as well as the requirements of applicable federal, state, and local laws, it being understood that acceptance of Seller's work by City shall not operate as a waiver or release. Seller shall assign only competent personnel to perform services hereunder. In the event that at any time the City, in its sole discretion, desires the removal of any person or persons assigned to perform services hereunder, Seller shall remove such person or persons immediately upon written notice from City. Seller shall perform the services described on the Order within the time or dates set forth therein.

19. INSURANCE REQUIREMENTS: Seller shall maintain in full force and effect all of the insurance coverage described in, and in accordance with, Attachment One, "Insurance Requirements", which is attached hereto and hereby incorporated and made part of the Order by this reference. Maintenance of the insurance coverage as set forth in

Attachment One is a material element of this Order and a material part of the consideration provided by Seller in exchange for City's agreement to make the payments prescribed hereunder. Failure by Seller to (i) maintain or renew coverage, (ii) provide the City notice of any changes, modifications, or reductions in coverage, or (iii) provide evidence of renewal, may be treated by City as a material breach of the Order by Seller, whereupon City shall be entitled to all rights and remedies at law or in equity, including but not limited to the immediate termination of the Order. Notwithstanding the foregoing, any failure by Seller to maintain required insurance coverage shall not excuse or alleviate Seller from any of its other duties or obligations under the Order. In the event Seller, with approval of City pursuant to Section 3 above, retains or utilizes any subcontractors or sub-consultants in the provision of any goods or services to City under the Order, Seller shall assure that any such subcontractor has first obtained, and shall maintain, all of the insurance coverage requirements set forth in the Insurance Requirements in Attachment One.

20. INDEPENDENT CONTRACTOR: The parties intend that Seller, in performing services herein specified, shall act as an independent contractor and shall have control of its work and the manner in which it is performed. It shall be free to contract for similar services to be performed for other employers while it is under contract with City. Seller is not to be considered an agent or employee of City and is not entitled to participate in any pension plan, medical, or dental plans, or any other benefit provided by City for its employees.

21. BUSINESS TAXES: Seller shall pay to City, when due, all business taxes payable by Seller under the provisions of Chapter 6-04 of the Santa Rosa City Code. City may deduct any delinquent business taxes, and any penalties and interest added to the delinquent taxes, from its payments to Seller.

22. NON-DISCRIMINATION: With respect to the provision of goods or services under the Order, Seller agrees not to discriminate against any person because of the race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, or military and veteran status of that person.

ATTACHMENT ONE
INSURANCE REQUIREMENTS

A. Insurance Policies: Licensee shall, at all times during the term of the License, maintain and keep in full force and effect, the following policies of insurance with minimum coverage as indicated below and issued by insurers with AM Best ratings of no less than A-:VI or otherwise acceptable to the City.

	Insurance	Minimum Coverage Limits	Additional Coverage Requirements
1.	Commercial general liability	$ 1 million per occurrence $ 2 million aggregate	Coverage must be at least as broad as ISO CG 00 01 and must include completed operations coverage. If insurance applies separately to a project/location, aggregate may be equal to per occurrence amount. **Coverage may be met by a combination of primary and umbrella or excess insurance but umbrella and excess shall provide coverage at least as broad as specified for underlying coverage. Coverage shall not exclude subsidence.**
2.	Business auto coverage	$ 1 million	ISO Form Number CA 00 01 covering any auto (Code 1), or if Licensee has no owned autos, then hired, (Code 8) and non-owned autos (Code 9), with limit no less than $ 1 million per accident for bodily injury and property damage.
3.	Workers' compensation and employer's liability	$ 1 million	As required by the State of California, with Statutory Limits and Employer's Liability Insurance with limit of no less than $ 1 million per accident for bodily injury or disease. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the City for all work performed by the Licensee, its employees, agents and subcontractors.
4.	Pollution Liability	N/A	If the work involves lead-based paint or asbestos identification/remediation, the policy must not contain lead-based paint or asbestos exclusions. If the work involves mold identification, the policy must not contain mold exclusion and the definition of "Pollution" in the policy must include microbial matter, including mold.

B. Endorsements:

1. All policies shall provide or be endorsed to provide that coverage shall not be canceled by either party, except after prior written notice has been provided to the entity in accordance with the policy provisions.

2. Liability, umbrella and excess policies shall provide or be endorsed to provide the following:

   a. For any claims related to this project, Licensee's insurance coverage shall be primary and any insurance or self-insurance maintained by City shall be excess of the Licensee's insurance and shall not contribute with it; and,

   b. **The City of Santa Rosa, its officers, agents, employees and volunteers are to be covered as additional insureds on the CGL policy**. General liability coverage can be provided in the form of an endorsement to Licensee's insurance at least as broad as ISO Form CG 20 10 11 85 or if not available, through the addition of both CG 20 10 and CG 20 37 if a later edition is used.

C. Verification of Coverage and Certificates of Insurance: Licensee shall furnish City with original certificates and endorsements effecting coverage required above. Certificates and endorsements shall make reference to policy numbers. All certificates and endorsements are to be received and approved by the City before work commences and must be in effect for the duration of the Agreement. The City reserves the right to require complete copies of all required policies and endorsements.

D. Other Insurance Provisions:

1. No policy required by this Agreement shall prohibit Licensee from waiving any right of recovery prior to loss. Licensee hereby waives such right with regard to the indemnitees.

2. All insurance coverage amounts provided by Licensee and available or applicable to this Agreement are intended to apply to the full extent of the policies. Nothing contained in this Agreement limits the application of such insurance coverage. Defense costs must be paid in addition to coverage amounts.

3. Policies containing any self-insured retention (SIR) provision shall provide or be endorsed to provide that the SIR may be satisfied by either Licensee or City. Self-insured retentions above $10,000 must be approved by City. At City's option, Licensee may be required to provide financial guarantees.

4. Sole Proprietors must provide a representation of their Workers' Compensation Insurance exempt status.

City reserves the right to modify these insurance requirements while this Agreement is in effect, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

EXHIBIT A

SCOPE OF WORK

The City of Santa Rosa desires to solicit qualified proposals for the furnishing of dewatering polymer to the City of Santa Rosa to dewater approximately **5,000 dry tons** per year of anaerobically digested biosolids in accordance with the terms, conditions and work specifications contained herein.

SPECIAL PROVISIONS

Optional Testing: Due to possible variations in the composition of sludge, it can be anticipated that the material contracted for hereunder may not satisfactorily fulfill the City's dewatering requirements during the entire term of the contract. Experimentation and testing may be conducted using polymeric flocculants provided by the vendor hereunder, or by other manufacturers, and may be covered by separate Agreement. All containers supplied for experimentation or testing shall be removed by the vendor at no cost to the city.

Pilot Program Testing: The City may be conducting pilot testing programs with various thickening and dewatering equipment during the term of this contract. The City reserves the right to use polymeric flocculants provided by the vendor hereunder, or other polymers furnished by the vendor or other manufacturers, during the pilot programs.

Quality Control: The polymer formula shall not be altered during the term of the contract. The vendor shall supply the City with a COPY OF THE ANALYTICAL PROCEDURES used to assure quality control of the product, with the bid submittal. The City will analyze random samples from material shipped for quality consistency on a periodic basis and will analyze samples from material being used when any significant deviations in polymer performance or established feed rates occur. In the event that the analysis indicates a significant quality inconsistency, the City will require the vendor to immediately perform an onsite retesting of the material in question at no cost to the City. If the quality deviations continue, a reduction in the price for said material shall be negotiated and implemented until such time the material conforms to the performance standards of the original testing. The City's Utilities Department shall be the sole judge of this compliance.

- Failure to correct the inconsistency will result in the discontinuance of all orders against the contract and the City shall reserve the right to purchase the needed product from other vendors. Such action shall not relieve the vendor from full responsibility to provide the polymer under contract. The City shall allow the vendor to propose a substitute polymer and price if necessary. However, the agreed upon price shall be the result of negotiation and subject to the approval of the City.

Technical Data: Bidder shall submit with the proposal complete and current technical data on the proposed material, including Safety Data Sheets (SDS). Such technical data shall include a copy of the analytical procedures used to assure quality control of the polymers and shall include the optimum range of said procedures. Failure to submit such data may be considered sufficient

reason to declare the proposal non-responsive. Each polymer delivery will be accompanied by the lot analytical results for the material delivered.

Orders: All orders against the contract will be placed by the City of Santa Rosa Purchasing Department or the Laguna Treatment Plant unless notified differently in writing.

Delivery: Delivery shall be F.O.B. destination freight charges included, made within seventy-two (72) hours after receipt of order and will be at the following:

Laguna Subregional Wastewater Treatment Plant
4300 Llano Road,
Santa Rosa, CA. 95407
(707) 543-3350

Freight Charges: Freight charges to the City of Santa Rosa shall be included in the unit cost of the bid item.

Title: Title to the material shall pass to the City at the F.O.B. point designated under Delivery, subject to the right of the City to reject upon inspection.

Should delivery be delayed beyond the specified seventy-two (72) hours, the City reserves the right to procure the material or services from other sources and may deduct from any monies due, or that may thereafter become due to the vendor, the difference between the price named in the contract and actual cost thereof to the City of Santa Rosa. Prices paid by the City shall be considered the prevailing market price at the time such purchase is made. The provisions of this paragraph shall in no way be construed to relieve the vendor from liability directly or indirectly caused by a delay in delivery beyond the specified forty-eight (48) hours.

Inspection: The City reserves the right and shall be at liberty to inspect all materials and workmanship and shall have the right to reject all materials and workmanship which do not conform to the material specifications provided; however, the City is under no duty to make such inspection. The City, for the purpose of earning the discount, may extend the date of complete acceptance beyond the date of delivery should it be determined, after inspection that a conditional acceptance exists and corrections are needed to bring the material up to the specifications of the bid award.

Inventory: The vendor shall be responsible for stocking and inventorying sufficient quantities of all bid items under the contract in order to guarantee that all orders placed against the contract be delivered complete and to the designated delivery site(s) within the time period specified under Delivery.

EXHIBIT B

Minimum Specifications
Dewatering Polymer

It is the intent of these specifications to describe newly manufactured polymer that meets or exceeds the composition and performance specifications described in the following minimum specifications.

The polymer shall be stored, blended and utilized by existing City equipment. Therefore, the proposed polymer must be determined by the City to be compatible with City equipment. Bidder supplied test equipment will not be allowed.

All material furnished as standard by the manufacturer shall be included, if not stated, in the written specifications.

In order to receive full consideration, submitted bids must fully follow these specifications and Request for Proposal's general conditions.

NOTE: Bidders must indicate compliance with the Minimum Specifications by checking the boxes next to each item and submit this page with their signed proposal.

BIDDER COMPLIANCE YES	NO	
X		Polymer Type: The City's polymer blending system currently installed at the Laguna Treatment Plant is designed to blend Emulsion type polymer. The City will only consider Emulsion type polymer for this solicitation. The polymer shall be delivered in liquid form readily soluble in water. It shall have low toxicity with respect to contact with skin, eyes, and to accidental ingestion or inhalation. It shall have no objectionable odor. The composite form of the material shall be non-flammable and non-corrosive. NOTE: The polymer must be capable of being mixed in the City's Polymer Blending System.
X		Requirements: It is desired that proposed polymeric flocculent produce a dewatered sludge cake in excess of sixteen percent (16%) solids with not less than a ninety-five percent (95%) recovery. However, proposed polymers must produce a dewatered sludge cake of a minimum of fifteen percent (15.0%) solids with not less than a ninety-five percent (95%) recovery to be considered. The City's dewatering facilities are equipped for polymer delivered in 275 gallon tote bins only. No other delivery or storage containers will be accepted.

EXHIBIT C

COST PROPOSAL

Quantity	Description	Lbs Wet Polymer/Dry Ton (Qualification Test Results)	Unit Price	Total Price
5,000 Dry Tons Anaerobically Digested Biosolids	Polymer Flocculant	Clarifloc WE-1452	$ 1.150/Lb. per lb./polymer	$
			Tax 9%	$ 0.1035 /Lb.
			Total	$ 1.2535 /Lb.

Note: Price shall include delivery

Payment Terms: N/A %20 days/ Net 30 (include discount for early payment)
N/A %30 Days/ Net 30 (include discount for early payment)
N/A % N/A / Net 30 Days (include discount for early payment

EXHIBIT C

COST PROPOSAL

Quantity	Description	Lbs Wet Polymer/Dry Ton (Qualification Test Results)	Unit Price	Total Price
5,000 Dry Tons Anaerobically Digested Biosolids	Polymer Flocculant	Clarifloc WE- 2040	$ 1.180/Lb. per lb./polymer	$_____
			Tax 9%	$ 0.1062/Lb.
			Total	$ 1.2862/Lb.

Note: Price shall include delivery

Payment Terms: N/A %20 days/ Net 30 (include discount for early payment)
N/A %30 Days/ Net 30 (include discount for early payment)
N/A % N/A / Net 30 Days (include discount for early payment

REFERENCES

City of Oceanside
1330 S. Tait Street
Oceanside, CA 92054
Shawn Alonzo, Chief Plant Operator
(760) 435-5875
E-mail: salonzo@oceanside.org

City of Fresno
5607 W. Jensen Ave.
Fresno, CA 93706
Dan Cravins, Chief of Operations
(559) 621-5180
E-Mail: dan.cravins@fresno.gov

City of Livermore
101 W. Jack London Blvd.
Livermore, CA 94550
Kevin Kepler, Supervising Operator
(925) 960-8100
E-mail: kdkepler@cityoflivermore.net

Los Angeles County Sanitation District
24501 South Figueroa St.
Whittier, CA 90601
Malika Jones, Engineer
PH: (310) 830-2400
E-MAIL: MJONES@LACSD.ORG

City of Merced
10260 Gove Road
Merced, CA 95340
Keith Riedeman, Operations Supervisor
(209) 385-6215
E-Mail: RiedemanK@cityofmerced.org

SNF POLYDYNE

www.polydyneinc.com

TABULATIONS FOR BID

To: City of Santa Rosa **State:** CA

From: Polydyne Inc. **Fax No.:** (912) 880-2078

Opened: 01/08/20

Subject: Request for Proposals 19-74 Dewatering Polymer Supply

Please provide us with tabulations on the subject bid by filling out this form or attaching your tabulations form to it. A self-addressed stamped envelope is included for your use. If possible, please fax these tabulations to the above-referenced number.

Awarded: YES/NO (circle one)

If YES, indicate awarded vendor with an *.

If NO, indicate expected date of award.

Vendor	Product	Unit Price
Polydyne Inc.	Clarifloc WE-1452	$1.150/Lb.
Polydyne Inc.	Clarifloc WE-2040	$1.180/Lb.

Thank you for your assistance,

Randal Vickery

Bid and Contract Coordinator

PH: (912) 880-2035

Database Number 119-477