RESOLUTION NO. 2020-74

Introduced by: Joel Hagy

A RESOLUTION AUTHORIZING THE CITY MANAGER TO AWARD THE BID AND AUTHORIZE THE EXPENDITURE OF FUNDS FOR THE PURCHASE OF WATER TREATMENT CHEMICALS TO PVS NOLWOOD CHEMICALS INC. IN AN AMOUNT NOT TO EXCEED NINE THOUSAND THREE HUNDRED SIXTY AND 00/100 DOLLARS ($9,360.00)

BE IT RESOLVED BY THE COUNCIL OF THE CITY OF HURON, OHIO:

SECTION 1. That the City of Sandusky having advertised for bids on behalf of the City of Huron and other entities, has provided a final bid tabulation indicating the lowest and best bid for each chemical and that based on that tabulation, the City Manager is authorized and directed to award the bid and expenditure of funds for the purchase of 4,000 Gallons of Hydrofluosilicic Acid to PVS Nolwood Chemicals Inc. in an amount not to exceed Nine Thousand Three Hundred Sixty and 00/100 dollars ($9,360.00), bid in the form of Exhibit "A" attached hereto and made a part hereof.

SECTION 2. That this Council hereby finds and determines that all formal actions relative to the adoption of this Resolution were taken in an open meeting of this Council and that all deliberations of this Council and of its Committees, if any, which resulted in formal action, were taken in meetings open to the public in full compliance with applicable legal requirements, including O.R.C. §121.22.

SECTION 3. That this Resolution shall be in full force and effect from and immediately after its adoption.

Sam Artino, Mayor

ATTEST: Terri Welkener
Clerk of Council

ADOPTED: 27 OCT 2020

BIDDER'S NAME:	PVS Nolwood Chemicals, Inc.
Authorized Signature:	By: [signature]
Print Name of Authorized Signatory:	Milisav Bulatovic
Title:	Treasurer
Participant Name (If different from Bidder):	
Company Name:	PVS Nolwood Chemicals, Inc.
Mailing Address:	10900 Harper Avenue Detroit, MI 48213
Telephone Number:	313-921-1200
Facsimile Number:	313-571-6765
E-Mail Address:	bids@pvschemicals.com
Where Incorporated:	Michigan
Federal Tax Identification Number:	38-258-1221
Contact Person for Contract processing:	Michael Shardo - Sales Contact

ADDITIONAL SIGNATURE FOR JOINT VENTURE

Authorized Signature:	By:
Print Name of Authorized Signature:	
Title:	
Participant Name:	
Mailing Address:	
Telephone Number:	
Facsimile Number:	

E-Mail Address: _____

Where Incorporated: _____

Federal Tax Identification Number: _____

Contact Person for Contract processing: _____

SANDUSKY ERIE COUNTY

CITY OF SANDUSKY, HURON AND ERIE COUNTY
CHEMICALS FOR CALENDAR YEAR 2021

ITEM NO.	CHEMICAL DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL COST
1	Liquid Sodium Permanganate ($NaMnO_4$)	12,000 Gallons More or Less	$ No bid	$ No bid
2	Hydrofluosilicic Acid (H_2SiF_6)	17,000 Gallons More or Less	$ 1.93/GL***	$ 32,810.00
3	Sodium Hydroxide Liquid (NaOH)	50,000 Gallons More or Less	$ No bid	$ No bid
4	Sodium Hypochlorite (NaOCl)	90,000 Gallons More or Less	$ No bid	$ No bid
5	Aluminum Sulfate Polymer Blend - Liquid (Type One) ($Al_2(SO_4)_3$)	101,250 Gallons More or Less/ 550 Wet Tons	$ No bid	$ No bid
6	Powdered Activated Carbon (PAC)	123,000 Pounds More or Less	$ No bid	$ No bid
7	Ferrous Chloride Solution (FeC12)	350,000 Pounds More or Less Dry Weight $/dry lbs of Fe	$ No bid	$ No bid
8	Polymer - Liquid	60,000 Pounds More or Less	$ No bid	$ No bid
9	Ferrous Chloride Solution (FeC12)	[illegible]	[illegible]	[illegible]
10	Sodium Aluminate - Liquid	[illegible]	[illegible]	[illegible]
11	Sodium Bisulfite Solution (Reducing)	[illegible]	[illegible]	[illegible]
12	Sodium Hypochlorite (NaOCl)	[illegible]	[illegible]	[illegible]
13	Polymer - Liquid	[illegible]	[illegible]	[illegible]
14	Liquid Chlorine (Cl_2)	24,000 Pounds More or Less $/lbs Deposit fee per 150 lb. cyclinder, if applicable	$ No bid	$ No bid
15	Powdered Activated Carbon (PAC)	8 Tons More or Less	$ No bid	$ No bid

CITY OF SANDUSKY, HURON AND ERIE COUNTY
CHEMICALS FOR CALENDAR YEAR 2021

HURON VERMILION

16	Sodium Hydroxide Liquid (NaOH)	12,000 Gallons More or Less	$ No bid	$ No bid
17	Aluminum Chlorhydrate Polymer Blend - Liquid ($Al_2(OH)_5Cl$)	16,000 Gallons More or less	$ No bid	$ No bid
18	Hydrofluosilicic Acid (H_2SiF_6)	4,000 Gallons More or Less	$ 2.34 ****	$ 9360.00
19	Liquid Sodium Permanganate ($NaMnO_4$)	4,000 Gallons More or Less	$ No bid	$ No bid
20	Chlorine (Cl_2)	24,000 Pounds More or Less	$ No bid	$ No bid
21	Liquid Caustic Soda - 50% NaOH	4,000 Gallons More or Less	$ No bid	$ No bid
22	Hydrofluosilicic Acid - 25%	18,000 Pounds More or Less	$ No bid	$ No bid
23	Polyaluminum Chloride Solution	250,000 Pounds More or Less	$ No bid	$ No bid
24	Liquid Ferrous Chloride	40,000 Gallons More or Less	$ No bid	$ No bid
25	Clarifloc CE-1593 Polymer	10 (275 gallon) Totes More or Less	$ No bid	$ No bid
26	Sodium Hypochlorite (NaOCl)	17 (300 gallon) Totes More or Less	$ No bid	$ No bid
27	Sodium Bisulfite Solution	15 (300 gallon) Totes More or Less	$ No bid	$ No bid
			Total Amount of Bid:	$ 42,170.00

Bidder Name: PVS Nolwood Chemicals, Inc.
Bidder Address: PVS Minibulk, Inc. 10900 Harper Avenue Detroit MI 48213
Telephone Number: 313-921-1200
Fax Number: 313-571-6765 Email Address: bids@pvschemicals.com
Date: October 9, 2020

Do not leave any boxes blank. If not bidding an item, state in cost box.
See specifications for exact details

***Item 2 / 4000 gallon bulk release
**** Item18 / 1800 gallon bulk release

CITY OF SANDUSKY
BID GUARANTY AND CONTRACT BOND

(Section 153.571, Ohio Revised Code)

KNOW ALL PERSONS BY THESE PRESENTS, that we, the undersigned

PVS Nolwood Chemicals, Inc., 10900 Harper Avenue, Detroit, MI 48213,
(Name and Address)

as Principal, and Hartford Fire Insurance Company,
(Name of Surety)

as Surety, are hereby held and firmly bound unto the City of Sandusky, Ohio, as Obligee, in the penal sum of the dollar amount of the bid submitted by the Principal to the Obligee on October 13, 20 20, to undertake the Project known as:

Bid for HFS

The penal sum referred to herein shall be the dollar amount of the Principal's bid to the Obligee, incorporating any additive Alternate bids proposals made by the Principal on the date referred to above to the Obligee, which are accepted by the Obligee. In no case shall the penal sum exceed the amount of _____ Dollars ($_____). **(If the above lines are left blank, the penal sum will be the full amount of the Principal's bid, including additive Alternates.** Alternatively, if completed, the amount stated must not be less than the full amount of the bid, including additive Alternates, in dollars and cents. A PERCENTAGE IS NOT ACCEPTABLE.) For the payment of the penal sum well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH that whereas the above-named Principal has submitted a bid for the above-referenced Project;

NOW, THEREFORE, if the Obligee accepts the bid of the Principal and the Principal fails to enter into a proper Contract in accordance with the Contract Documents, including the bid, Plans, Specifications and details; and in the event the Principal pays to the Obligee the difference, not to exceed 10% of the penal sum hereof, between the amount specified in the bid and such larger amount for which the Obligee may in good faith contract with the Bidder determined by the Obligee to be the next lowest and best Bidder to perform the Work covered by the bid; or in the event the Obligee does not award the Contract to such next lowest and best Bidder and resubmits the Contract for bidding, the Principal pays to the Obligee the difference not to exceed 10% of the penal sum hereof, between the amount specified in the bid, or the costs, in connection with the resubmission, of printing new Contract Documents, required advertising, and printing and mailing notices to prospective Bidders, whichever is less, then this obligation

shall be null and void, otherwise to remain in full force and effect. If the Obligee accepts the bid of the Principal and the Principal within 10 days after written notice of intent to award the Contract executes the Contract Form in accordance with the Contract Documents, including the bid, Plans, Specifications and details, which said Contract is made a part of this Bond the same as though set forth herein;

NOW ALSO, IF THE SAID Principal shall well and faithfully perform each and every condition of such Contract; and indemnify the Obligee against all damage suffered by failure to perform such Contract according to the provisions thereof and in accordance with the Contract Documents, including the Plans, Specifications and details therefor; and shall pay all lawful claims of Subcontractors, Material Suppliers, and laborers for labor performed and materials furnished in the carrying forward, performing, or completing of said Contract; we agreeing and assenting that this undertaking shall be for the benefit of any Subcontractor, Material Supplier or laborer having a just claim, as well as for the Obligee herein; then this obligation shall be void, otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal sum of this obligation as herein stated.

THE SAID Surety hereby stipulates and agrees that no modifications, omissions, or additions in or to the terms of the said Contract, the Work thereunder or the Contract Documents, including the Plans and Specifications therefor shall in anyway affect the obligations of said Surety on this Bond, and the Surety does hereby waive notice of any such modifications, omissions or additions in or to the terms of the Contract, the Work or the Contract Documents, including the Plans and Specifications.

SIGNED This 9th day of October, 20 20.

PRINCIPAL: PVS Nolwood Chemicals, Inc.

BY: [signature]

TITLE: Milisav Bulatovic Treasurer

SURETY: Hartford Fire Insurance Company

BY: [signature]
Attorney-in-Fact
Bartlomiej Siepierski

SURETY ADDRESS:

One Hartford Plaza
Street

Hartford	CT	06155
City	State	Zip

( ) (860) 547-5000
Telephone Number

SURETY AGENT'S ADDRESS:

CSS Specialty - Aon Risk Services Central, Inc.
Agency Name

200 East Randolph Street
Street

Chicago	IL	60601
City	State	Zip

(312) 381-1000
Telephone Number

SIGNED This 9th day of October, 20 20.

PRINCIPAL. PVS Nolwood Chemicals, Inc.

BY: _____

TITLE: _____

SURETY: Hartford Fire Insurance Company

BY: _____
Attorney-in-Fact
Bartlomiej Siepierski

SURETY ADDRESS:

One Hartford Plaza
Street

Hartford CT 06155
City State Zip

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SURETY AGENT'S ADDRESS:

CSS Specialty - Aon Risk Services Central, Inc.
Agency Name

200 East Randolph Street
Street

Chicago IL 60601
City State Zip

(312) 381-1000
Telephone Number

Effective Date: September 1, 1810

Expiration Date: April 1, 2021

State of Ohio

Department of Insurance

Certificate of Authority

This is to Certify, that

HARTFORD FIRE INSURANCE COMPANY

NAIC No. 19682

is authorized in Ohio to transact the business of insurance as defined in the following section(s) of the Ohio Revised Code:

Section 3929.01 (A)

Accident & Health
Aircraft
Allied Lines
Boiler & Machinery
Burglary & Theft
Commercial Auto - Liability
Commercial Auto - Physical Damage
Earthquake
Fidelity
Fire
Glass
Group Accident & Health
Inland Marine
Multiple Peril - Commercial
Multiple Peril - Farmowners
Multiple Peril - Homeowners
Ocean Marine
Other Liability
Private Passenger Auto - Liability
Private Passenger Auto - Physical Damage
Surety
Workers Compensation

This Certificate of Authority is subject to the laws of the State of Ohio

Mike DeWine, Governor

Jillian Froment, Director

HARTFORD FIRE INSURANCE COMPANY

Hartford, Connecticut

Financial Statement, December 31, 2019

Statutory Basis

ASSETS

U.S. Government Bonds	$	840,113,348
Bonds of Other Governments		121,116,115
State, County Municipal		
Miscellaneous Bonds		6,693,259,040
Stocks		5,951,954,085
Short Term Investments		319,401,591
	$	13,925,844,179
Real Estate	$	330,748,750
Cash		73,243,912
Agents' Balances (Under 90 Day)		2,975,955,651
Other Invested Assets		3,711,124,314
Miscellaneous		2,997,354,377
Total Admitted Assets	$	24,014,271,183

LIABILITIES

Reserve for Claims and Claim Expense		$	9,115,928,403
Reserve for Unearned Premiums			2,117,250,671
Reserve for Taxes, License and Fees			48,494,588
Miscellaneous Liabilities			2,001,539,149
Total Liabilities		$	13,283,212,811
Capital Paid In	$ 55,320,000		
Surplus	10,675,738,372		
Surplus as regards Policyholders		$	10,731,058,372
Total Liabilities, Capital and Surplus		$	24,014,271,183

STATE OF FLORIDA
SEMINOLE COUNTY } SS.
CITY OF LAKE MARY

Joelle L. LaPierre, Assistant Vice President and Shelby Wiggins, Assistant Secretary of the Hartford Fire Insurance Company, being duly sworn, each deposes and say that the foregoing is a true and correct statement of the said company's financial condition as of December 31, 2019.

Subscribed and sworn to before me this
5th day of March, 2020.

Assistant Vice President

Notary Public

JESSICA CICCONE
MY COMMISSION # GG077453
EXPIRES June 20, 2021

Assistant Secretary

Form CS-19-37 HF printed in U.S.A.

POWER OF ATTORNEY

Direct Inquiries/Claims to:
THE HARTFORD
BOND, T-12
One Hartford Plaza
Hartford, Connecticut 06155
Bond.Claims@thehartford.com
call: 888-266-3488 or fax: 860-757-5835

KNOW ALL PERSONS BY THESE PRESENTS THAT:

Agency Name: AON RISK SERVICES CENTRAL, INC
Agency Code: 83-553702

- [X] **Hartford Fire Insurance Company**, a corporation duly organized under the laws of the State of Connecticut
- [X] **Hartford Casualty Insurance Company**, a corporation duly organized under the laws of the State of Indiana
- [X] **Hartford Accident and Indemnity Company**, a corporation duly organized under the laws of the State of Connecticut
- [ ] **Hartford Underwriters Insurance Company**, a corporation duly organized under the laws of the State of Connecticut
- [ ] **Twin City Fire Insurance Company**, a corporation duly organized under the laws of the State of Indiana
- [ ] **Hartford Insurance Company of Illinois**, a corporation duly organized under the laws of the State of Illinois
- [ ] **Hartford Insurance Company of the Midwest**, a corporation duly organized under the laws of the State of Indiana
- [ ] **Hartford Insurance Company of the Southeast**, a corporation duly organized under the laws of the State of Florida

having their home office in Hartford, Connecticut, (hereinafter collectively referred to as the "Companies") do hereby make, constitute and appoint, *up to the amount of* Unlimited :

Derek J. Elston, Ann Mullins, Christopher P. Troha, Marcia K. Cesafsky, Jennifer L. Jakaitis, Bartlomiej Siepierski, Aerie Walton of CHICAGO, Illinois

their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign its name as surety(ies) only as delineated above by ☒, and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

In Witness Whereof, and as authorized by a Resolution of the Board of Directors of the Companies on May 6, 2015 the Companies have caused these presents to be signed by its Senior Vice President and its corporate seals to be hereto affixed, duly attested by its Assistant Secretary. Further, pursuant to Resolution of the Board of Directors of the Companies, the Companies hereby unambiguously affirm that they are and will be bound by any mechanically applied signatures applied to this Power of Attorney.

John Gray, Assistant Secretary

M. Ross Fisher, Senior Vice President

STATE OF CONNECTICUT }
COUNTY OF HARTFORD } ss. Hartford

On this 5th day of January, 2018, before me personally came M. Ross Fisher, to me known, who being by me duly sworn, did depose and say that he resides in the County of Hartford, State of Connecticut; that he is the Senior Vice President of the Companies, the corporations described in and which executed the above instrument; that he knows the seals of the said corporations; that the seals affixed to the said instrument are such corporate seals; that they were so affixed by authority of the Boards of Directors of said corporations and that he signed his name thereto by like authority.

CERTIFICATE

Kathleen T. Maynard
Notary Public
My Commission Expires July 31, 2021

I, the undersigned, Assistant Vice President of the Companies, DO HEREBY CERTIFY that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is still in full force effective as of 10/9/2020

Signed and sealed at the City of Hartford

Kevin Heckman, Assistant Vice President

ACKNOWLEDGEMENT BY SURETY

STATE OF ILLINOIS
COUNTY OF COOK

On this 9th day of October, 2020, before me, Derek Elston, a Notary Public, within and for said County and State, personally appeared Bartlomiej Siepierski to me personally known to be the Attorney-in-Fact of and for Hartford Fire Insurance Company and acknowledged that s/he executed the said instrument as the free act and deed of said Company.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, at my office in the aforesaid County, the day and year in this certificate first above written.

Notary Public in the State of Illinois
County of Cook

OFFICIAL SEAL
DEREK ELSTON
NOTARY PUBLIC, STATE OF ILLINOIS
COOK
MY COMMISSION EXPIRES 09/08/2022

Effective Date: September 1, 1810

Expiration Date: April 1, 2021

State of Ohio

Department of Insurance

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SEMINOLE COUNTY } SS.
CITY OF LAKE MARY

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Assistant Vice President

Notary Public

JESSICA CICCONE
MY COMMISSION # GG077453
EXPIRES June 20, 2021

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having their home office in Hartford, Connecticut, (hereinafter collectively referred to as the "Companies") do hereby make, constitute and appoint, ***up to the amount of*** Unlimited :

Derek J. Elston, Ann Mullins, Christopher P. Troha, Marcia K. Cesafsky, Jennifer L. Jakaitis, Bartlomiej Siepierski, Aerie Walton of CHICAGO, Illinois

their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign its name as surety(ies) only as delineated above by ☒, and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

In **Witness Whereof**, and as authorized by a Resolution of the Board of Directors of the Companies on May 6, 2015 the Companies have caused these presents to be signed by its Senior Vice President and its corporate seals to be hereto affixed, duly attested by its Assistant Secretary. Further, pursuant to Resolution of the Board of Directors of the Companies, the Companies hereby unambiguously affirm that they are and will be bound by any mechanically applied signatures applied to this Power of Attorney.

John Gray, Assistant Secretary

M. Ross Fisher, Senior Vice President

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COUNTY OF HARTFORD } ss. Hartford

On this 5th day of January, 2018, before me personally came M. Ross Fisher, to me known, who being by me duly sworn, did depose and say: that he resides in the County of Hartford, State of Connecticut; that he is the Senior Vice President of the Companies, the corporations described in and which executed the above instrument; that he knows the seals of the said corporations; that the seals affixed to the said instrument are such corporate seals; that they were so affixed by authority of the Boards of Directors of said corporations and that he signed his name thereto by like authority.

Kathleen T. Maynard
Notary Public
My Commission Expires July 31, 2021

CERTIFICATE

I, the undersigned, Assistant Vice President of the Companies, DO HEREBY CERTIFY that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is still in full force effective as of 10/9/2020

Signed and sealed at the City of Hartford.

Kevin Heckman, Assistant Vice President

ACKNOWLEDGEMENT BY SURETY

STATE OF ILLINOIS
COUNTY OF COOK

On this 9th day of October, 2020, before me, Derek Elston, a Notary Public, within and for said County and State, personally appeared Bartlomiej Siepierski to me personally known to be the Attorney-in-Fact of and for Hartford Fire Insurance Company and acknowledged that s/he executed the said instrument as the free act and deed of said Company.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, at my office in the aforesaid County, the day and year in this certificate first above written.

Notary Public in the State of Illinois
County of Cook

OFFICIAL SEAL
DEREK ELSTON
NOTARY PUBLIC, STATE OF ILLINOIS
COOK
MY COMMISSION EXPIRES 09/09/2022

PROJECT NAME: Chemicals for year 2021
CONTRACT NO.: _____

PERSONAL PROPERTY TAX
CERTIFICATION
REQUIRED BY OHIO REVISED CODE
SECTION 5719.042

FINANCE DIRECTOR
CITY OF SANDUSKY

PVS Nolwood Chemicals, Inc.
BIDDER'S NAME

STATE OF Michigan

COUNTY OF Wayne SS:

THE UNDERSIGNED HEREBY CERTIFIES THAT THE BIDDER TO WHOM CONTRACT AWARD IS BEING CONSIDERED WAS NOT CHARGED WITH ANY DELINQUENT PERSONAL PROPERTY TAX ON THE GENERAL TAX LIST OF PERSONAL PROPERTY FOR ANY COUNTY IN THE STATE OF OHIO AT THE TIME THE BID WAS SUBMITTED FOR THE ABOVE-REFERENCED CONTRACT.

NAME: _____
(SIGNATURE)
NAME: Milisav Bulatovic
(PRINTED)
TITLE: Treasurer

STATE OF Michigan
COUNTY OF Wayne SS:

SWORN TO BEFORE ME AND SUBSCRIBED IN MY PRESENCE THIS 12th DAY OF October, 20 20.

NOTARY PUBLIC Eileen McDonnell

NOTE: THIS AFFIDAVIT IS TO BE REPRODUCED ON THE BIDDER'S LETTERHEAD AND SIGNED BY THE APPROPRIATE SIGNATORY BEFORE A NOTARY PUBLIC.

EILEEN MCDONNELL
Notary Public, State of Michigan
Wayne County, Michigan
My Commission Expires Dec 23, 2020
Acting in Wayne County

CITY OF SANDUSKY
BID FORM

Project Name: **Chemicals for Calendar Year 2021**

Having read and examined the Contract Documents, including without limitation the Drawings and Specifications, prepared by the City Engineer for the above-referenced Project, and the following Addenda:

Addendum No.	Date of Receipt
None	

The undersigned Bidder proposes to perform all Work for the applicable Project, in accordance with the Contract Documents, for the following sums:

CONTRACT 1. GENERAL CONTRACT

CITY OF SANDUSKY
NON-COLLUSION AFFIDAVIT

STATE OF Michigan }
} ss:
COUNTY OF Wayne }

The undersigned hereby certifies as follows:

(1) The bid to the City of Sandusky, Ohio, submitted by the Bidder on October 9th, 2020 in accordance with the Contract Documents dated _____ (the "Bid") has been prepared by the Bidder without collusion or fraud with any Person.

(2) The Bid is not made in the interest of or on behalf of any undisclosed Person.

(3) The Base Bid, any Unit Price and any Alternate bid in the Bid have been arrived at independently without collusion, consultation, communication or agreement, or for the purpose of restricting competition as to any matter relating to such Base Bid, Unit Price or Alternate with any other Bidder.

(4) Unless otherwise required by law, the Base Bid, any Unit Price and any Alternate bid in the Bid have not been knowingly disclosed by the Bidder and will not be knowingly disclosed by the Bidder prior to the bid opening, directly or indirectly, to any other Bidder who would have any interest in the Base Bid, Unit Price or Alternate bid.

(5) No attempt has been made or will be made by the Bidder to induce any other Person to submit or not to submit a bid for the purpose of restricting competition.

Date: October 9th, 20 20

PVS Nolwood Chemicals, Inc.
(Name of Bidder)

By: _____
Signature of person authorized to bind the Bidder Milisav Bulatovic

STATE OF Michigan)
) ss
COUNTY OF Wayne)

SWORN TO BEFORE ME AND SUBSCRIBED IN MY PRESENCE THIS 9th DAY OF October, 2020.

(seal)

Eileen McDonnell
Notary Public Eileen McDonnell

EILEEN MCDONNELL
Notary Public, State of Michigan
Wayne County, Michigan
My Commission Expires Dec 23, 2020
Acting in Wayne County

CITY OF SANDUSKY
BIDDER'S AFFIDAVIT #2

CONTRACT NAME: 2021 Chemicals

LOBBYING AND CAMPAIGN
FINANCING CERTIFICATION

DIRECTOR OF ENGINEERING SERVICES
CITY OF SANDUSKY

PVS Nolwood Chemicals, Inc.
BIDDER'S NAME

STATE OF Michigan

COUNTY OF Wayne SS:

The undersigned hereby certifies as follows:

1. The Bidder is and will remain in compliance with the requirements of Sections 101.70 and 121.60 *et seq.* of the Ohio Revised Code relating to lobbying.

2. The Bidder is and will remain in compliance with Chapter 3517 of the Ohio Revised Code, Campaign Financing, including that all applicable parties listed in division (I)(3) (with respect to non-corporate entities and labor organizations) or (J)(3) (with respect to corporations) are in full compliance with divisions (I)(1) and (J)(1) of the Ohio Revised Code Section 3517.13.

NAME: _____
(SIGNATURE)

NAME: Milisav Bulatovic
(PRINTED)

TITLE: Treasurer

STATE OF Michigan

COUNTY OF Wayne SS:

SWORN TO BEFORE ME AND SUBSCRIBED IN MY PRESENCE THIS 9th DAY OF October, 20 20.

Eileen McDonnell

NOTARY PUBLIC Eileen McDonnell

NOTE: THIS AFFIDAVIT IS TO BE REPRODUCED ON THE BIDDER'S LETTERHEAD AND SIGNED BY THE APPROPRIATE SIGNATORY BEFORE A NOTARY PUBLIC.

EILEEN MCDONNELL
Notary Public, State of Michigan
Wayne County, Michigan
My Commission Expires Dec 23, 2020
Acting in Wayne County

CITY OF SANDUSKY
BIDDER'S AFFIDAVIT

[NOTE: THIS AFFIDAVIT IS TO BE REPRODUCED ON THE BIDDER'S LETTERHEAD AND SIGNED BY THE APPROPRIATE SIGNATORY BEFORE A NOTARY PUBLIC. CROSS OUT EITHER PARAGRAPH 3 OR 4, WHICHEVER IS NOT APPLICABLE. IF PARAGRAPH 3 IS NOT CROSSED OUT, EXHIBIT A MUST BE COMPLETED AND ATTACHED TO NAME AND DESCRIBE THE INTERESTS OF ALL RELATED PERSONS.]

PROJECT NAME: 2021 Chemicals
CONTRACT: _____

ETHICS CERTIFICATION PURSUANT TO OHIO REVISED CODE SECTIONS 9.24, 102.03, 102.04, 2921.42 AND 3517.13

DIRECTOR OF ENGINEERING SERVICES
CITY OF SANDUSKY

PVS Nolwood Chemicals, Inc.
BIDDER'S NAME

STATE OF Michigan

COUNTY OF Wayne SS:

The undersigned being duly sworn, deposes and states as follows:

1. The undersigned is duly authorized to make the statements herein on behalf of the Bidder.

2. No unresolved finding for recovery has been issued against the Bidder by the Auditor of State.

3. No official or employee of the City of Sandusky is officer, director, trustee, shareholder, partner, member or owner of the Bidder (each, a "Related Person"), or is a business associate or a member of the family of the Bidder or a Related Person.

4. An official or an employee of the City of Sandusky is an officer, director, trustee, shareholder, partner, member or owner (each, a "Related Person") of the Bidder, or is a business associate or a member of the family of the Bidder or Related Person, but

a. the subject of the Contract is necessary supplies or services for the City of

Sandusky;

b. the supplies or services are unobtainable elsewhere for the same or lower cost, or are being furnished to the City of Sandusky as part of a continuing course of dealing established prior to the Related Person becoming a City official or employee;

c. the treatment accorded the City of Sandusky is either preferential to or the same as that accorded other customers of the Bidder in similar transactions;

d. the entire transaction resulting in the Contract has been conducted at arms-length, with full knowledge by the City of the interest of the Related Persons as described in Exhibit A attached hereto; and

e. the Related Person has taken no part in the deliberations or decision of the City with respect to the Contract.

5. The Bidder is a/an (select one):

☐ Individual, partnership, or other unincorporated business association (including a professional association organized under Ohio Revised Code Chapter 1785), estate, or trust.

☒ Corporation organized and existing under the laws of the State of Michigan.

☐ Labor organization.

6. The undersigned hereby affirms that the Bidder and each of the individuals specified in Section 3517.13(I)(3), ORC, (with respect to non-corporate entities and labor organizations) or Section 3517.13(J)(3), ORC, (with respect to corporations) are in full compliance with the political contributions limitations set forth in Sections 3517.13(I) and (J), ORC, as applicable. I understand that a false representation on this certification constitutes a felony of the fifth degree pursuant to Sections 3517.13(AA) and 3517.992(R)(3), ORC. Any contract that contains a falsified certification shall be rescinded.

NAME: _____
(SIGNATURE)

NAME: Milisav Bulatovic
(PRINTED)

TITLE: Treasurer

STATE OF Michigan

COUNTY OF Wayne SS:

Sworn to before me and subscribed in my presence this 9th day of October, 20 20.

_____
NOTARY PUBLIC Eileen McDonnell

EILEEN MCDONNELL
Notary Public, State of Michigan
Wayne County, Michigan
My Commission Expires Dec 23, 2020
Acting in Wayne County

CITY OF SANDUSKY
BIDDER'S AFFIDAVIT
EXHIBIT A

Project Name: 2021 Chemicals

Contract: _____

Bidder's Name: PVS Nolwood Chemicals, Inc.

Related official/public employee:

Name: None.

Title/Position:

Relation to Bidder:

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

1.1 Product identifier

- Trade name: FLUOROSILICIC ACID, 23-25%
- Synonyms: Hydrofluorosilicic acid, Fluorosilicic acid, Hydrofluosilicic acid, Flousilicic acid, HFS, FSA

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

Uses of the Substance / Mixture

- Chemical intermediate
- Water treatment

Distributed By:
PVS NOLWOOD CHEMICALS, INC.
10300 Regal Avenue
Detroit, MI 48213
(313) 925-4300

PVS ITEM #	PVS SDS #
10327	0313

CONTROLLED DOCUMENT
IF STAMPED IN RED

1.3 Details of the supplier of the safety data sheet

Company

SOLVAY FLUORIDES, LLC
3737 Buffalo Speedway,
Suite 800,
Houston, TX 77098
USA
Tel: 800-515-6065

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CONTACT CHEMTREC (24-Hour Number): 800-424-9300 within the United States and Canada, or 703-527-3887 for international collect calls.

SECTION 2: Hazards identification

Although OSHA has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects.

2.1 Classification of the substance or mixture

HCS 2012 (29 CFR 1910.1200)

Acute toxicity, Category 4	H302: Harmful if swallowed.
Acute toxicity, Category 4	H332: Harmful if inhaled.
Acute toxicity, Category 3	H311: Toxic in contact with skin.
Skin corrosion, Category 1	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.

2.2 Label elements

HCS 2012 (29 CFR 1910.1200)

Pictogram

Signal Word

- Danger

Hazard Statements

- H302 + H332	Harmful if swallowed or if inhaled.
- H311	Toxic in contact with skin.
- H314	Causes severe skin burns and eye damage.

Precautionary Statements

Prevention

- P261	Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
- P264	Wash skin thoroughly after handling.
- P270	Do not eat, drink or smoke when using this product.
- P271	Use only outdoors or in a well-ventilated area.
- P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

- P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
- P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
- P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
- P362	Take off contaminated clothing and wash before reuse.

Storage

- P405	Store locked up.

Disposal

- P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards which do not result in classification

None identified

SECTION 3: Composition/information on ingredients

3.1 Substance

- Not applicable, this product is a mixture.

3.2 Mixture

- Synonyms: Hydrofluorosilicic acid, Fluorosilicic acid, Hydrofluosilicic acid, Flousilicic acid, HFS, FSA

Hazardous ingredients and impurities

Chemical name	Identification number CAS-No.	Concentration [%]
Silicate(2-), hexafluoro-, hydrogen (1:2)	16961-83-4	>= 23 - <= 25
Hydrofluoric acid	7664-39-3	<= 1

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

- HF exposures are unique. Serious and potentially life threatening effects can occur immediately or up to 24 hours

after exposure.
- Always decontaminate exposure victims before applying first aid or medical treatment.
- Rescuers should wear PPE during rescue and decontamination of victims.
- First aid providers should wear gloves when touching exposed areas or applying calcium gluconate gel to victims.
- In case of splashes to eyes and face, treat eyes first.
- Always seek medical attention if exposed to HF.

In case of inhalation

- Move to fresh air.
- Get immediate medical advice/ attention.
- Administer oxygen by mask at a rate of 12 liters/minute.
- Nebulize 2.5% calcium gluconate solution for 15 to 20 minutes minimum or until the victim reaches medical attention.
- If calcium gluconate is not available, administer oxygen as above until the victim reaches medical attention.
- If respiratory assistance is needed, use indirect methods such as "microshilds" or "AMBU" bag. Do not give mouth to mouth resuscitation.
-
- If exposed to HF vapor, expect to see skin and eye exposure. Follow the decontamination and first aid procedures for skin and eye exposure.
- Be aware to maintain life support if necessary.

In case of skin contact

- In case of HF exposure to skin, go to the nearest source of water or safety shower. Turn water on.
- While washing, remove all clothing, shoes and jewelry.
- Finally, while closing eyes and facing the water flow, remove goggles or respirator face mask.
- HF-resistant gloves should be worn while touching contaminated skin.
- Wash the exposed areas for 5 minutes maximum if first aid treatments are immediately available. Otherwise continue to wash until first aid treatments are available.
- Immediately apply calcium gluconate gel 2.5% and massage into the affected area; continue to massage while repeatedly applying gel until 15 minutes after pain is relieved.
- If fingers/finger nails are touched, even if there is no pain, dip them in a bath of 2.5% calcium gluconate for 15 to 20 minutes.
- Seek medical attention as soon as possible. During transportation to a medical facility or while waiting for a physician to see victim, it is extremely important to continue messaging calcium gluconate gel.
- Be aware to maintain life support if necessary.

In case of eye contact

- Decontamination: Go to the nearest eye wash or clean source of water, open the water valve. Have a trained person remove contact lenses if present (contact lenses should be prohibited), put your eye(s) in the water flow and hold eyelids open while flushing.
- After flushing, irrigate eyes with 1% calcium gluconate solution using a nasal cannula cinched over the bridge of the nose. Dispense 1000 cc of calcium gluconate solution in a continuous flush for a minimum period of 15 minutes, or if necessary until medical aid is available.
-
- During transportation to a medical facility or while waiting for a physician to see the victim, it is extremely important to continue the calcium gluconate irrigation.
-
- Always obtain specialized medical evaluation & treatment as soon as possible.
- Be aware to maintain life support if necessary.

In case of ingestion

- If HF has been ingested, the victim should be immediately transported to a medical facility.
- Do NOT induce vomiting.
- If the victim is able to swallow, give oral calcium containing antacids or solution. The recommended antidote is calcium gluconate. However, if no calcium gluconate is at hand, the oral administration of small and limited amount of milk or water might be considered if it's consistent with local practice.
- Be aware to maintain life support if necessary.

4.2 Most important symptoms and effects, both acute and delayed

In case of skin contact

Symptoms
- Causes severe burns.
- metabolic imbalances
- Life threatening cardiac arrhythmia

Effects
- HF penetrate very fast any tissue it comes in contact with, and do not remain on its surface.
- Initially, the substances will be locally burning, and afterwards they will penetrate into deeper tissues and might cause the following significant complications:
- In case of lower concentrations, symptoms can be delayed and might appear even 48h after the exposure.
- It is completely absorbed into the body, where it causes acute and severe toxic systemic effects, mainly attributable to a rapid development of serum hypocalcaemia and hypomagnesaemia and to enzymes blocking.

In case of eye contact

Symptoms
- Causes severe burns.
- Blindness

Effects
- HF penetrate very fast any tissue it comes in contact with, and do not remain on its surface.
- Initially, the substances will be locally burning, and afterwards they will penetrate into deeper tissues and might cause the following significant complications:
- In case of lower concentrations, symptoms can be delayed and might appear even 48h after the exposure.
- It is completely absorbed into the body, where it causes acute and severe toxic systemic effects, mainly attributable to a rapid development of serum hypocalcaemia and hypomagnesaemia and to enzymes blocking.

In case of inhalation

Symptoms
- Causes severe burns.
- metabolic imbalances
- pulmonary edema
- Life threatening cardiac arrhythmia

Effects
- Initially, the substances will be locally burning, and afterwards they will penetrate into deeper tissues and might cause the following significant complications:
- In case of lower concentrations, symptoms can be delayed and might appear even 48h after the exposure.
- It is completely absorbed into the body, where it causes acute and severe toxic systemic effects, mainly attributable to a rapid development of serum hypocalcaemia and hypomagnesaemia and to enzymes blocking.

In case of ingestion

Effects
- In case of lower concentrations, symptoms can be delayed and might appear even 48h after the exposure.
- It is completely absorbed into the body, where it causes acute and severe toxic systemic effects, mainly attributable to a rapid development of serum hypocalcaemia and hypomagnesaemia and to enzymes blocking.

4.3 Indication of any immediate medical attention and special treatment needed

- no data available

SECTION 5: Firefighting measures

Flash point Not applicable

Autoignition temperature Not applicable

Flammability / Explosive limit No data available

5.1 Extinguishing media

Suitable extinguishing media

- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

- None.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting

- The product is not flammable.
- Not combustible.
- Heating can release hazardous gases.
- Gives off hydrogen by reaction with metals.

Hazardous combustion products:

- Hydrogen
- Hydrogen fluoride

5.3 Advice for firefighters

Special protective equipment for fire-fighters

- Wear self-contained breathing apparatus and protective suit.
- Fire fighters must wear fire resistant personnel protective equipment.
- Wear chemical resistant oversuit
- Protect intervention team with a water spray as they approach the fire.

Further information

- Cool containers/tanks with water spray.
- Approach from upwind.
- Suppress (knock down) gases/vapors/mists with a water spray jet.
- After the fire, proceed rapidly with cleaning of surfaces exposed to the fumes in order to limit equipment damage.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel

- Prevent further leakage or spillage if safe to do so.
- Keep away from incompatible products

Advice for emergency responders

- Approach from upwind.

- Isolate the area.
- Wear self-contained breathing apparatus in confined spaces, in cases where the oxygen level is depleted, or in case of significant emissions.
- Suppress (knock down) gases/vapors/mists with a water spray jet.
- Avoid spraying the leak source.
- Ventilate the area.

6.2 Environmental precautions

- Should not be released into the environment.
- If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

- Dam up.
- Soak up with inert absorbent material.
- Prevent product from entering sewage system.
- Dilute with water.
- Contact with water may produce heat release and presents risks of splashing.
- When diluting, always add the product to water. Never add water to the product.
- Neutralize with the following product(s):
- soda ash
- lime
- Keep in properly labeled containers.
- Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

- Refer to protective measures listed in sections 7 and 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Used in closed system
- Handle small quantities under a lab hood.
- Use only in well-ventilated areas.
- Use only equipment and materials which are compatible with the product.
- Preferably transfer by pump or gravity.
- For further information, please contact:
- Manufacturer, importer, supplier
- Keep away from incompatible products

Hygiene measures

- Ensure that eyewash stations and safety showers are close to the workstation location.
- Take off contaminated clothing and shoes immediately.
- Wash contaminated clothing before re-use.
- May not get in touch with:
- Leather
- Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

- Do not freeze.

- Keep container tightly closed.
- Keep in a cool, well-ventilated place.
- Keep away from heat.
- Keep in a contained area
- Information about special precautions needed for bulk handling is available on request.

- Provide tight electrical equipment well protected against corrosion.
- For personal protection see section 8.

- Keep away from:
- Incompatible products

Packaging material

Suitable material
- Plastic materials.
- Coated steels.

Unsuitable material
- glass

7.3 Specific end use(s)

- Contact your supplier for additional information

SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters

Components with workplace occupational exposure limits

Components	Value type	Value	Basis
Silicate(2-), hexafluoro-, hydrogen (1:2)	TWA	2.5 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
	CAS number varies with compound Expressed as :Fluorine		
Silicate(2-), hexafluoro-, hydrogen (1:2)	TWA	2.5 mg/m3	American Conference of Governmental Industrial Hygienists
	Expressed as :Fluorine		
Silicate(2-), hexafluoro-, hydrogen (1:2)	PEL	2.5 mg/m3	
	Expressed as :Fluorine		
Hydrofluoric acid	TWA	3 ppm 2.5 mg/m3	National Institute for Occupational Safety and Health
Hydrofluoric acid	C	6 ppm 5 mg/m3	National Institute for Occupational Safety and Health
	15 minute ceiling value		

Hydrofluoric acid	TWA Z37.28-1969	3 ppm	Occupational Safety and Health Administration - Table Z-2
Hydrofluoric acid	TWA Danger of cutaneous absorption Expressed as :Fluorine	0.5 ppm	American Conference of Governmental Industrial Hygienists
Hydrofluoric acid	C Danger of cutaneous absorption Expressed as :Fluorine	2 ppm	American Conference of Governmental Industrial Hygienists
Hydrofluoric acid	See Table Z-2Expressed as :Fluorine		Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
Hydrofluoric acid	PEL SkinExpressed as :Fluorine	0.4 ppm 0.33 mg/m3	
Hydrofluoric acid	STEL SkinExpressed as :Fluorine	1 ppm 0.83 mg/m3	

NIOSH IDLH (Immediately Dangerous to Life or Health Concentrations)

Components	CAS-No.	Concentration
Hydrofluoric acid	7664-39-3	30 ppm

Biological Exposure Indices

Components	Value type	Value	Basis
Silicate(2-), hexafluoro-, hydrogen (1:2)	BEI	2 mg/l Fluoride Urine Prior to shift (16 hours after exposure ceases)	American Conference of Governmental Industrial Hygienists
Silicate(2-), hexafluoro-, hydrogen (1:2)	BEI	3 mg/l Fluoride Urine End of shift (As soon as possible after exposure ceases)	American Conference of Governmental Industrial Hygienists
Hydrofluoric acid	BEI	2 mg/l Fluoride Urine Prior to shift (16 hours after exposure ceases)	American Conference of Governmental Industrial Hygienists

Hydrofluoric acid	BEI	3 mg/l Fluoride Urine End of shift (As soon as possible after exposure ceases)	American Conference of Governmental Industrial Hygienists

8.2 Exposure controls

Control measures

Engineering measures
- Provide adequate ventilation.
- Apply technical measures to comply with the occupational exposure limits.

Individual protection measures

Respiratory protection
- Use respirator when performing operations involving potential exposure to vapor of the product.
- Respirator with a full face mask.
- Respirator with combination filter for vapor/particulate (EN 141)
- In case of decomposition (see section 10), face mask with combined type B-P3 cartridge.
- In the case of dust or aerosol formation use respirator with an approved filter.
- Self-contained breathing apparatus in confined spaces/insufficient oxygen/in case of large uncontrolled emissions/in all circumstances when the mask and cartridge do not give adequate protection.
- Use only respiratory protection that conforms to international/ national standards.
- Use NIOSH approved respiratory protection.
- Self-contained breathing apparatus in case of: 1) large uncontrolled emissions, 2) insufficient oxygen, 3) the mask and cartridge do not give adequate protection.

Hand protection
- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
- Protective gloves - impervious chemical resistant:

Suitable material
- Copolymer VF2-HFP (fluoroelastomer)

Eye protection
- Chemical resistant goggles must be worn.
- Face-shield

Skin and body protection
- Impervious clothing
- Do not wear leather shoes.

- If splashes are likely to occur, wear:
- butyl-rubber
- Boots

Hygiene measures
- Ensure that eyewash stations and safety showers are close to the workstation location.
- Take off contaminated clothing and shoes immediately.
- Wash contaminated clothing before re-use.
- May not get in touch with:
- Leather
- Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties

Appearance	Physical state: liquid Color: colorless
Odor	pungent
Odor Threshold	No data available
pH	1.0 (100 g/l)
Melting point/freezing point	Freezing point: < 4.1 °F (< -15.5 °C)
Initial boiling point and boiling range	Boiling point/boiling range: Thermal decomposition: yes Not applicable
Flash point	Not applicable
Evaporation rate (Butylacetate = 1)	No data available
Flammability (solid, gas)	Not applicable
Flammability (liquids)	The product is not flammable.
Flammability / Explosive limit	Explosiveness: With certain materials (see section 10).
Autoignition temperature	Not applicable
Vapor pressure	22.50 mmHg (30 hPa) (68 °F (20 °C))
Vapor density	> 1 (68 °F (20 °C))
Density	Bulk density: Not applicable
Relative density	1.27 (68 °F (20 °C)) 30 % solution
Solubility	Water solubility: soluble
Partition coefficient: n-octanol/water	Not applicable
Decomposition temperature	No data available

Viscosity	Viscosity, dynamic :	6.5 mPa.s (68 °F (20 °C)) 30 % solution
Explosive properties		No data available
Oxidizing properties		Not considered as oxidizing.

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

- Risk of violent reaction.
- Risk of explosion.

10.2 Chemical stability

- Stable under recommended storage conditions.
- Corrosive in contact with metals
- Gives off hydrogen by reaction with metals.
- Risk of violent reaction.
- Risk of explosion.

10.3 Possibility of hazardous reactions

- Reacts violently with water., Corrosive in contact with metals, Gives off hydrogen by reaction with metals.

10.4 Conditions to avoid

- To avoid thermal decomposition, do not overheat.

10.5 Incompatible materials

- glass
- Strong oxidizing agents
- Metals

10.6 Hazardous decomposition products

- Hydrogen
- Hydrogen fluoride

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Silicate(2-), hexafluoro-, hydrogen (1:2)	study scientifically unjustified Corrosive

Acute inhalation toxicity

Silicate(2-), hexafluoro-, hydrogen (1:2)	study scientifically unjustified Corrosive

Acute dermal toxicity

Silicate(2-), hexafluoro-, hydrogen (1:2)	study scientifically unjustified Corrosive

Acute toxicity (other routes of administration)	No data available

Skin corrosion/irritation

Silicate(2-), hexafluoro-, hydrogen (1:2)	Corrosive

Serious eye damage/eye irritation

Silicate(2-), hexafluoro-, hydrogen (1:2)	Corrosive

Respiratory or skin sensitization

Silicate(2-), hexafluoro-, hydrogen (1:2)	study scientifically unjustified Corrosive

Mutagenicity

Genotoxicity in vitro

Silicate(2-), hexafluoro-, hydrogen (1:2)	Ames test Strain: Salmonella typhimurium with and without metabolic activation negative Method: OECD Test Guideline 471

Genotoxicity in vivo

Silicate(2-), hexafluoro-, hydrogen (1:2)	Test substance: Sodium fluoride By analogy In vivo tests did not show mutagenic effects

Carcinogenicity

Silicate(2-), hexafluoro-, hydrogen (1:2)	By analogy
	Rat
	Mouse
	Oral Exposure time: Prolonged exposure NOAEL: 175ppm Test substance: Sodium fluoride drinking water No carcinogenic effects have been observed

This product does not contain any ingredient designated as probable or suspected human carcinogens by:
NTP
IARC
OSHA

Toxicity for reproduction and development

Toxicity to reproduction / fertility

Silicate(2-), hexafluoro-, hydrogen (1:2)	By analogy
	Two-generation study - Rat, male and female, Oral Fertility NOAEL Parent: 10 mg/kg
	Fertility NOAEL F1: 10 mg/kg Test substance, Sodium fluoride, drinking water, The product is not considered to affect fertility.

Developmental Toxicity/Teratogenicity

Silicate(2-), hexafluoro-, hydrogen (1:2)	By analogy
	Rat
	Rabbit
	, Oral Teratogenicity NOAEL:14mg/kg Test substance, Sodium fluoride, drinking water, The product is not considered to be toxic for development.

STOT

STOT-single exposure

Silicate(2-), hexafluoro-, hydrogen (1:2)	The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.

STOT-repeated exposure

Silicate(2-), hexafluoro-, hydrogen (1:2)	The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.
Silicate(2-), hexafluoro-, hydrogen (1:2)	By analogy

Oral - Mouse , male and female
LOAEL: 50 ppm
Test substance: Sodium fluoride
Target Organs: Skeleton

By analogy

Inhalation 90-day - Rat , male and female
NOAEC: 0.72 mg/m3
Test substance: Hydrogen fluoride
Target Organs: Respiratory Tract, Bone, Teeth, Kidney

Experience with human exposure No data available

Aspiration toxicity No data available

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish

Silicate(2-), hexafluoro-, hydrogen (1:2)	LC50 - 96 h : 50 mg/l - Lepomis macrochirus (Bluegill sunfish) static test Fresh water

Acute toxicity to daphnia and other aquatic invertebrates

Silicate(2-), hexafluoro-, hydrogen (1:2)	By analogy EC50 - 48 h : 26 mg/l - Daphnia magna (Water flea) static test Test substance: Sodium fluoride Fresh water By analogy EC50 - 96 h : 10.5 mg/l static test Test substance: Sodium fluoride Marine species salt water

Toxicity to aquatic plants

Silicate(2-), hexafluoro-, hydrogen (1:2)	By analogy EC50 - 96 h : 43 mg/l - algae static test Test substance: Sodium fluoride Fresh water Sea water By analogy EC50 - 96 h : 81 mg/l - algae static test Test substance: Sodium fluoride Fresh water Sea water By analogy NOEC - 7 Days : 50 mg/l - algae static test Test substance: Sodium fluoride Fresh water Sea water

Toxicity to microorganisms	No data available

Chronic toxicity to fish

Silicate(2-), hexafluoro-, hydrogen (1:2)	By analogy NOEC: 4 mg/l - 21 Days - Oncorhynchus mykiss (rainbow trout) static test Test substance: Sodium fluoride Fresh water

Chronic toxicity to daphnia and other aquatic invertebrates

Silicate(2-), hexafluoro-, hydrogen (1:2)	By analogy
	NOEC: 8.9 mg/l - 21 Days - Daphnia magna (Water flea) static test Test substance: Sodium fluoride Fresh water

12.2 Persistence and degradability

Abiotic degradation	No data available
Stability in water Silicate(2-), hexafluoro-, hydrogen (1:2)	Water/soil ionization/neutralization, Water/soil complexation/precipitation of inorganic materials,
Physical- and photo-chemical elimination	No data available
Biodegradation	
Biodegradability Silicate(2-), hexafluoro-, hydrogen (1:2)	The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water Silicate(2-), hexafluoro-, hydrogen (1:2)	Not applicable, inorganic substance

Bioconcentration factor (BCF)
Silicate(2-), hexafluoro-, hydrogen (1:2) Does not bioaccumulate.

12.4 Mobility in soil

Adsorption potential (Koc)
Silicate(2-), hexafluoro-, hydrogen (1:2) Air
mobility as solid aerosols

Solubility(ies)
Water
Mobility

Soil/sediments
potential adsorption
pH
Test substance
fluoride

Known distribution to environmental compartments No data available

12.5 Results of PBT and vPvB assessment Not applicable, mixture of inorganic substances

12.6 Other adverse effects

Ecotoxicity assessment

Short-term (acute) aquatic hazard
According to the available data on the components
No acute environmental hazard identified.
According to the classification criteria for mixtures.
Unpublished reports
Published data

Long-term (chronic) aquatic hazard
According to the available data on the components
No chronic environmental hazard identified.
According to the classification criteria for mixtures.
Unpublished reports
Published data

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

- In accordance with local and national regulations.
- Refer to manufacturer/supplier for information on recovery/recycling.

Waste Code

- Environmental Protection Agency
- Hazardous Waste – YES

- RCRA Hazardous Waste (40 CFR 302)
- D002 - Corrosive waste – (C)

Advice on cleaning and disposal of packaging

- Clean container with water.
- The empty and clean containers are to be reused in conformity with regulations.
- To avoid treatments, as far as possible, use dedicated containers.

SECTION 14: Transport information

Transportation status: IMPORTANT! Statements below provide additional data on listed transport classification.
The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

DOT

14.1 UN number	UN 1778
14.2 Proper shipping name	FLUOROSILICIC ACID
14.3 Transport hazard class Label(s)	8 8
14.4 Packing group Packing group ERG No	 II 154
14.5 Environmental hazards **Marine pollutant**	NO

TDG

14.1 UN number	UN 1778
14.2 Proper shipping name	FLUOROSILICIC ACID
14.3 Transport hazard class Label(s)	8 8
14.4 Packing group Packing group ERG No	 II 154
14.5 Environmental hazards **Marine pollutant**	NO

NOM

14.1 UN number	UN 1778
14.2 Proper shipping name	FLUOROSILICIC ACID
14.3 Transport hazard class Label(s)	8 8

14.4 Packing group	
Packing group	II
ERG No	154
14.5 Environmental hazards	NO
Marine pollutant	

IMDG

14.1 UN number	UN 1778
14.2 Proper shipping name	FLUOROSILICIC ACID
IMDG Code segregation group	Acids (SGG1)
14.3 Transport hazard class	8
Label(s)	8
14.4 Packing group	
Packing group	II
14.5 Environmental hazards	NO
Marine pollutant	
14.6 Special precautions for user	
EmS	F-A , S-B

For personal protection see section 8.

14.7 Transport in bulk vessels according to IMO instruments
No data available

IATA

14.1 UN number	UN 1778
14.2 Proper shipping name	FLUOROSILICIC ACID
14.3 Transport hazard class	8
Label(s):	8
14.4 Packing group	
Packing group	II
Packing instruction (cargo aircraft)	855
Max net qty / pkg	30.00 L
Packing instruction (passenger aircraft)	851
Max net qty / pkg	1.00 L
14.5 Environmental hazards	NO
14.6 Special precautions for user	
For personal protection see section 8.	

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information

15.1 Notification status

Inventory Information	Status
United States TSCA Inventory	- Listed on Inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Australia Inventory of Chemical Substances (AICS)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
Taiwan Chemical Substance Inventory (TCSI)	- Listed on Inventory
EU. European Registration, Evaluation, Authorisation and Restriction of Chemical (REACH)	- When purchased from a Solvay legal entity based in the EEA ("European Economic Area"), this product is compliant with the registration provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of the EEA, please contact your local representative for additional information.

15.2 Federal Regulations

US. EPA EPCRA SARA Title III

SARA Hazard Designation Sections 311/312 (40 CFR 370)

Acute toxicity (any route of exposure)	Yes
Skin corrosion or irritation	Yes
Serious eye damage or eye irritation	Yes

The categories not mentioned are not relevant for the product.

Section 313 Toxic Chemicals (40 CFR 372.65)
The following components are subject to reporting levels established by SARA Title III, Section 313:

Components	CAS-No.	Concentration
Hydrofluoric acid	7664-39-3	<= 1%

Components	CAS-No.	Threshold planning quantity	Remarks
Hydrofluoric acid	7664-39-3	100 lb	

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)

Components	CAS-No.	Reportable quantity
Hydrofluoric acid	7664-39-3	100 lb

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)

Components	CAS-No.	Reportable quantity
Hydrofluoric acid	7664-39-3	100 lb

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

Components	CAS-No.	Reportable quantity
Hydrofluoric acid	7664-39-3	100 lb

15.3 State Regulations

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

SECTION 16: Other information

Further information

- Distribute new edition to clients
- Update

Date Prepared: 09/03/2019

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

- C	Ceiling limit
- PEL	Permissible exposure limit
- STEL	Short term exposure limit
- TWA	8-hour, time-weighted average
- ACGIH	American Conference of Governmental Industrial Hygienists
- OSHA	Occupational Safety and Health Administration
- NTP	National Toxicology Program
- IARC	International Agency for Research on Cancer
- NIOSH	National Institute for Occupational Safety and Health

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. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.

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COPY

SOLVAY

SOLVAY FLUORIDES, LLC

CERTIFICATE OF ANALYSIS

SOLVAY CHEMICALS, Inc.

Customer

PVS CHEMICAL SOLUTIONS INC
10900 HARPER AVENUE
DETROIT MI 48213-3564

Certificate recipient

PVS CHEMICAL SOLUTIONS
11001 HARPER AVE
DETROIT MI 48213-3319

Transport	4108456839	Batch number	6974899-1
Delivery note	70743478 900001	Order	4733606 000010
Shipping date	04/05/2017	Customer ref.	231390
Packaging	1 RAIL CAR	Transport ID	TCIX006977

HYDROFLUOROSILICIC ACID 23-25%

Batch number 6974899-1 / Quantity 197,160.000 LB / Packaging id TCIX006977

We certify that product loaded into the vessel meets AWWA Standard B703-11 and NSF/ANSI Standard 60 requirements:

Characteristics	Units	Value	Specification
Assay	%(m)	23.97	23.00 - 25.00
Color	APHA	13.0	<= 100.0
HF	%(m)	0.42	<= 1.00
Specific Gravity @ 60F		1.2190	
Arsenic (As)	ppm	7.10	<= 50.00
Lead (Pb)	ppm	< 1.00	<= 50.00
Heavy Metals (as Pb)	%	< 0.020	<= 0.020
P2O5	%(m)	0.02	<= 0.50

DISTRIBUTED BY
PVS NOLWOOD CHEMICALS, INC
10900 Harper Avenue
Detroit, MI 48213
(313) 925-0300

NSF - 60

Maximum Use Level: 6.0 mg/L

This Certificate was automatically produced and is valid without signature

P.O. # _____

CODE/PART NUMBER _____

LOT # _____

PVS Nolwood Lot Number: L052417P

Date: 5/24/17

Approved By: RDM

Supplier :

SOLVAY FLUORIDES, LLC
3737 Buffalo Speedway, Suite 600
77098-3701 Houston,TX
Tel: 800-615-4065

Approved by

David C. Anderson
Director of Quality Management
Solvay Chemicals, Inc.
3737 Buffalo Speedway, Suite 600
Houston, TX 77098 Phone 713-525-4171

Issued at AURORA on 04/06/2017 at 02:29 PM

Fluorosilicic Acid

Fluorosilicic Acid (Hydrofluorosilicic Acid, HFS, FSA)

Technical Data Sheet

CHEMICAL ANALYSIS	SPECIFICATION	TYPICAL ANALYSIS
H_2SiF_6, %	23-25	23.5
Heavy Metals (as Pb), %		< 0.02
HF, %	1.0 max	0.5
Color, APHA	100 max	< 20
P_2O_5, %		< 0.2

Product meets ANSI/AWWA Standard B703-06, and is certified by NSF International or Classified by UL to ANSI/NSF Standard 60. Maximum use level for potable water treatment is 6.0 mg/L.

PHYSICAL PROPERTIES

Physical Description	Aqueous solution, water white to straw-yellow, corrosive acid, irritating to skin and having pungent odor.
Molecular Weight	144.08
Specific Gravity 23% solution @ 75°F	1.212
Boiling Point of Aqueous 23% Solution	221°F (Decomposes)
Freezing Point of Aqueous 23% Solution	5°F (approx.)
Freezing Point of Aqueous 25% Solution	-4°F
pH of 1%, H_2SiF_6	1.2

CONTAINERS

Tank truck, rubber or plastic-lined	40,000 lb (approx.)
Tank car, rubber or plastic-lined	196,000 lb net (approx.)

DOT AND FREIGHT DESCRIPTION

Hazardous Material Description	Fluorosilicic acid
Haz. Mat. Class, I.D.#, Packaging Group	8, UN 1778, PG II
Freight Classification	Hydrofluorosilicic Acid
Principal CAS Number	16961-83-4
RQ	None
Placard	Corrosive
Label	Corrosive

Responsible Care®
Good Chemistry at Work

CGR#3323 HFS-0205 Revised 0707

www.solvaychemicals.us 1.800.765.8292

SOLVAY Fluorides

SOLVAY

Fluorosilicic Acid

Fluorosilicic Acid (Hydrofluorosilicic Acid, HFS, FSA)

Technical Data Sheet

Use in public Water Treating Plants:

The reduction in dental caries by adjusting the fluoride content of public water supplies is a matter of common knowledge today, half a century following the first installation in Grand Rapids, Michigan. Approximately 170 million people in over three thousand communities are now drinking fluoride-treated water from water purification plants where fluoridation is currently practiced. Fluoridation is concerned with the controlled introduction to water of the fluoride ion. Other materials in the fluoride compound simultaneously introduced into the water with the fluoride ions are carriers which provide no benefits and are nontoxic. The addition of one part per million of fluoride requires that the product be soluble, of definite concentration and have high purity standards. In conformity with the American Water Works Association standard B703-94, the term fluorosilicic acid has replaced the more technical designation of hydrofluosilicic acid. After the original work with sodium fluoride proved the effectiveness of fluoride on tooth health and a broad fluoridation program was envisaged, new sources of fluoride and economics of their use were investigated. Fluorosilicic acid is a high purity source of fluoride. It is simpler to use than any other chemical approved for water fluoridation purposes, primarily because it is a liquid and can therefore be accurately measured and fed with a minimum of equipment. In contrast to powdered or granular chemicals, it presents no dust problems, no measuring problems and handling requires a minimum of labor. Today most of the large cities and many small ones are fluoridating with fluorosilicic acid. It is readily available in tank cars or tank trucks and can also be supplied in 15-gallon carboys and 55-gallon drums. The addition of fluorosilicic acid to a water supply can be readily controlled to give a total fluoride (F) level of one part per million which has been established as effective for reducing tooth decay. It should be used in accordance with procedures approved by each state's department of health.

Acid Characteristics:

Fluorosilicic acid is a transparent, clear to straw-colored, corrosive liquid having the chemical formula of H_2SiF_6. It is manufactured in modern rubber-lined equipment producing an acid of high commercial purity. Commercial water solutions of the acid are available, having concentration of between 23% and 25% H_2SiF_6. Fluorosilicic acid is generally believed not to exist in the vapor phase, but only in solution. Upon vaporizing, it decomposes into hydrofluoric acid (HF) and silicon tetrafluoride. This equilibrium exists at the surface of strong solutions of fluorosilicic acid and if stored in glass containers, the small concentration of hydrofluoric acid may very slowly attack the glass above the solution level. For this reason, it is generally shipped in polyethylene containers rather than glass carboys. A 23% fluorosilicic acid-water solution weighs 10.1 pounds per gallon at 75°F, and has a fluoride (F) content of 18.20%.

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Fluorosilicic Acid (Hydrofluorosilicic Acid, HFS, FSA)

Technical Data Sheet

Installation:
In a typical large plant installation, rubber-lined vented storage tanks are usually mounted outside the building with the tanks ranging in size from 4,500 to 6,500 gallon capacities. These tanks, equipped with recording level gauges, feed the acid through plastic piping or tubing to the dosage unit. Feeding is regulated by controlled volume pumps. Metering is used for accurate flow records. Fluorosilicic acid may be handled in rubber-lined, saran or other available corrosive-resistant equipment as suggested below:

Pipes and lines	-	rubber, saran or polyethylene
Pumps	-	Lucite, saran or Hastelloy
Valves	-	rubber-lined or polyethylene-lined
Tanks	-	rubber-lined, saran or polyethylene-lined

Acid should be pumped by positive diaphragm proportioning pumps.

Operation procedure:
The drum or drums of fluorosilicic acid should be mounted on a platform of sufficient size and capacity to permit weighing the amount used each day. Proportioning pumps deliver an accurate volume, but for small pumping rates, the dosage may be more satisfactorily regulated by periodic weighing of the drum. Whenever a drum of fluorosilicic acid is replaced on the scale, the time and weight should be recorded in the daily operating log. Whenever dosage is changed to a varying pumpage, the time and feeder setting should be recorded in the daily log.

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