

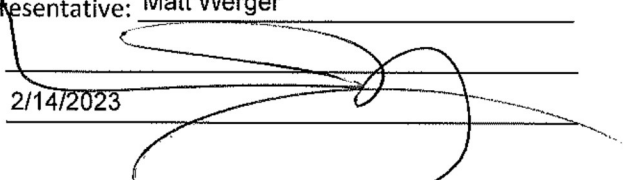
SECTION IV

**BAY AREA CHEMICAL CONSORTIUM
BID CONTRACT DOCUMENTS
FOR BID NO. 05-2023
CITRIC ACID**

***** All of the following pages must be properly completed and submitted
for the bid to be considered complete. *****

**BAY AREA CHEMICAL CONSORTIUM
STANDARD AGREEMENT, PAGE 1 OF 2
BID NO. 05-2023
SUPPLY AND DELIVERY OF CITRIC ACID**

I hereby agree to furnish CITRIC ACID identified in the attached bid forms, as solicited by the Bay Area Chemical Consortium (BACC), to one or more of the participating BACC Agencies.

Company: Northstar Chemical as a dba of Pacific Star Chemical, LLC
Address: 14200 SW Tualatin-Sherwood Road
City, State, ZIP: Sherwood, OR 97140
Phone: 503-625-3770
Email: bidsca@northstarchemical.com
Authorized Representative: Matt Werger
Signature: 
Date: 2/14/2023

WE ACKNOWLEDGE RECEIVING ADDENDUM/ADDENDA NUMBER 0 THROUGH _____.

SPECIFIC DEVIATIONS:

This box must be checked if bidder has any proposed specific deviations. Per Section 2.12 Proposed Deviations from the Specifications by the Bidder, the absence of a proposed change in the specifications will hold the bidder strictly accountable to the specifications as described in the bid document, including any addendum.

Describe the specific deviations below. A copy of the proposed specifications must be attached to this Standard Agreement at the time of submission, with bidder's name clearly shown on each document.

STANDARD AGREEMENT, PAGE 2 OF 2

BIDDER INFORMATION

1. Legal Name of Bidder:
Northstar Chemical as a dba of Pacific Star Chemical, LLC

2. Bidder's Street Address:
14200 SW Tualatin-Sherwood Rd, Sherwood, OR 97140

3. Mailing Address:
Same as above

4. Business Telephone: 503-625-3770 Fax Number: 503-625-1478

5. Type of Supplier:
 Sole Proprietor Partnership Corporation LLC
If Corporation, indicate State where incorporated: Delaware

6. Business License Number issued by the City where the Supplier's principal place of business is located.
Number: 102941832 Issuing City: Stanislaus

7. Supplier Federal Tax Identification Number: 46-303886

8. Emergency Contact: Name: Scott Lewis
Phone Number: 209-605-8197

9. Order Contact: Name: Customer Service - Main Office
Address: 572 Codoni Ave, Modesto, CA 95357
Phone Number: 855-355-7014 Fax Number: _____
Email: ordersmodesto@northstarchemical.com

10. References:

<u>Company/Agency Name</u>	<u>Contact Name</u>	<u>Phone Number</u>
1) <u>Santa Clara Water</u>	<u>Kimberly Grundy</u>	<u>408-630-2245</u>
2) <u>City of Lodi</u>	<u>Travis Kahrs</u>	<u>209-333-6878</u>
3) <u>City of Clovis</u>	<u>Leon Penney</u>	<u>559-324-3038</u>

11. Chemical Manufacturer's name and address (if different from Bidder):

**Non-Collusion Affidavit
To Be Executed By Bidder and Submitted With Bid**

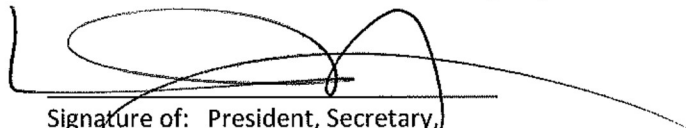
State of ~~California~~ Oregon)
) ss.
County of Washington)

Matt Werger, being first duly sworn, deposes and says that he or she is the
(Bidder's Authorized Representative)

Executive Vice President of Northstar Chemical as a dba of Pacific Star Chemical, LLC the party making the
(Title of Representative) (Legal Name of Bidder)

foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bid, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid 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, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

I declare under penalty of perjury under the laws of the state of California that the foregoing is true and correct.

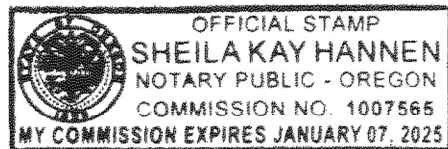

Signature of: President, Secretary,
Manager, Owner, or Representative

Subscribed and sworn to before me this, 17th day of February 20 23

Sheila Hannen
Signature of Notary Public In and For

The County of Washington

State of Oregon



All Signatures Must Be Witnessed By Notary

**BAY AREA CHEMICAL CONSORTIUM
BID FORM FOR BID NO. 05-2023
FOR SUPPLY AND DELIVERY OF CITRIC ACID**

Sealed bids must be submitted in a PDF format and bidders must enter bid prices into the electronic bid platform (Line Item page)

<https://bacwa.org/bacc/>

No later than 4:00 PM. PT
Thursday, February 23, 2023

Legal Name of Bidder:

Northstar Chemical as a dba of Pacific Star Chemical, LLC

Business Address

14200 SW Tualatin-Sherwood Road

Sherwood, OR 97140

Telephone Number: 503-625-3770

Facsimile Number: 503-625-1478

Email Address: bidsca@northstarchemical.com

Authorized Representative (Please Print):

Matt Werger

Signature: _____

Date: 2/14/2023

I. **All costs except California State sales tax** for the purchase of CITRIC ACID must be included in the amount shown entered into the electronic bid platform (Line Item page), including any and all mill assessments, fees, excise taxes, transportation charges, etc. Any exceptions to the bid must be noted under Specific Deviations on the Standard Agreement. Bidders shall submit bids per unit of measure as specified in the electronic bid platform (Line Item page).

II. **Bidders must submit all of the following, attached to this Bid Form:**

- a. All requirements listed in Section 2.21 Manufacturer's Info.
- b. If applicable, the name, address, and contact information for the third party hauling company as well as an affidavit signed by the Bidder that the third party hauler can and will deliver the chemical to each and every participating BACC Agency.

III. **Bidder Obligations**

By signing this Bid Form and entering into individual purchase orders, purchase agreements and /or contracts with BACC agencies, the bidder expressly agrees to be bound by all the provisions of the bid solicitation, including Sections I-IV.

Citric Acid Solution 50%
 Technical Data Sheet

Citric Acid Solution 50%

<u>Parameter</u>	<u>Basis</u>	<u>Typical Result</u>
Assay	(Weight %)	49.0 - 51.0
Arsenic (as As)	ppm	≤ 1.0
Heavy Metals (as Pb)	ppm	≤ 2.5
Lead	ppm	≤ 1.0
Identification		Meets FCC/USP Tests
Specific Gravity		1.24
Oxalate		Passes Test - No turbidity
Sulfate		Passes Test - No turbidity
Readily Carbonized Substances		Passes Test
Ultraviolet Absorbance		Meets the Requirements
Organic Volatile Impurities		Meets the Requirements

Kosher - Parve

This product meets the specification of the Food Chemicals Codex, 9th Edition. Meeting the specification of the Food Chemical Codex does not guarantee that the product is suitable in a food-related application. Users of this product should carefully assess this product to determine if it is suitable for the intended application.

WARRANTY

This information is, to the best of our knowledge, accurate, but may not be complete. Northstar Chemical furnishes this information in good faith, but without warranty, representation or guarantee of its accuracy, completeness or reliability.



1333 S. Mayflower Ave. Suite 300
Monrovia, CA 91016
Toll: 866-849-APAC
Tel: 626-203-0066
Fax: 626-203-0067
www.apacchemical.com

Certificate of Analysis

Product	Citric Acid Anhydrous Granular	Quantity	20 MT
Lot No.	AA-21112077-G	Manufacturing Date	11/23/2021
APAC Ref	CAA-210601-377	Analysis Date	11/24/2021
Packing	1000 KG	Expiry Date	11/22/2024

Items	Standards	Results
Identification	Pass Test	Pass Test
Clarity & Color of Solution	Pass Test	Pass Test
Barium	Pass Test	Pass Test
Assay	99.5% ~ 100.5%	99.82%
Moisture	≤ 0.3%	0.12%
Calcium	≤ 100 mg/kg	<10
Iron	≤ 5 mg/kg	<1
Arsenic	≤ 1 mg/kg	<1
Oxalate	≤ 100 mg/kg	<25
Heavy Metals	≤ 5 mg/kg	<3
Readily Carbonizable Substances	Pass Test	Pass Test
Sulphate	≤ 150 mg/kg	<10
Residue of Ignition (Sulfated Ash)	≤ 0.05%	0.01
Chloride	≤ 50 mg/kg	<1
Bacterial Endotoxins	≤ 0.5 I.U./MG	<0.5
Nickel	≤ 1 mg/kg	<1
Cobalt	≤ 1 mg/kg	<1
Mercury	≤ 1 mg/kg	<1
Lead	≤ 0.5 mg/kg	<0.5
Chromium	≤ 1 mg/kg	<1
Aluminium	≤ 0.2 mg/kg	<0.2
Mesh Size	12-40	12-40

FINAL RESULT: THIS BATCH CONFORMS TO THE STANDARDS OF FCC & USP



150 N. Santa Anita Ave., Suite 850
Arcadia, CA 91006
Toll: 866-849-APAC
Tel: 626-203-0066
Fax: 626-203-0067
www.apacchemical.com

PRODUCT SPECIFICATION
Citric Acid Anhydrous
(USP36/FCC8)

Characters	White Crystalline granules
Assay%	99.5%-100.5%
Clarity of Solution	Pass Test
Moisture %	≤0.5
Heavy Metals (ppm)	≤10
Oxalate	Pass Test
Calcium	Pass Test
Sulphate ASH%	≤0.05
Readily Carbonisable Substances	Pass Test
Aluminum (ppm)	≤0.2
Arsenic (ppm)	≤1
Lead (ppm)	≤0.5
Bacterial Endotoxins	Pass Test
Organic Volatile Impurity	Pass Test
Sterility %	Pass Test
Residue On Ignition %	≤0.1
Chloride (ppm)	≤50
Iron (ppm)	≤50
Tridodecylamine (ppm)	≤0.1



The Public Health and Safety Organization

NSF Product and Service Listings

These NSF Official Listings are current as of **Tuesday, February 14, 2023** at 12:15 a.m. Eastern Time. Please contact NSF to confirm the status of any Listing, report errors, or make suggestions.

Alert: NSF is concerned about fraudulent downloading and manipulation of website text. Always confirm this information by clicking on the below link for the most accurate information:

<http://info.nsf.org/Certified/PwsChemicals/Listings.asp?Company=C0052176&Standard=060&>

NSF/ANSI/CAN 60 Drinking Water Treatment Chemicals - Health Effects

Northstar Chemical

14200 Southwest Tualatin Sherwood Road

Sherwood, OR 97140

United States

888-793-9476

503-625-3770

Visit this company's website

(<http://www.northstarchemical.com>)

Facility : Distribution Center - San Pedro, CA

Sodium Hydroxide

Trade Designation

Sodium Hydroxide 15%
Sodium Hydroxide 20%
Sodium Hydroxide 25%
Sodium Hydroxide 30%
Sodium Hydroxide 33%
Sodium Hydroxide 50%

Product Function

pH Adjustment
pH Adjustment
pH Adjustment
pH Adjustment
pH Adjustment
pH Adjustment

Max Use

333mg/L
250mg/L
200mg/L
167mg/L
152mg/L
100mg/L

Facility : Modesto, CA

Blended Coagulation Chemicals[AL] [PY]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
MP-1483	Coagulation & Flocculation	50mg/L
MP-1683	Coagulation & Flocculation	100mg/L

[AL] Based on an evaluation of health effects data, the level of aluminum in the finished drinking water shall not exceed 2 mg/L.

[PY] Polyamines Certified by NSF International comply with 40 CFR 141.111 requirements for percent monomer and dose.

Citric Acid

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Citric Acid	pH Adjustment	100mg/L

Hydrochloric Acid

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Hydrochloric Acid 10%	pH Adjustment	140mg/L
Hydrochloric Acid 15%	pH Adjustment	93mg/L
Hydrochloric Acid 20%	pH Adjustment	70mg/L
Hydrochloric Acid 25%	pH Adjustment	56mg/L
Hydrochloric Acid 28%	pH Adjustment	50mg/L
Hydrochloric Acid 31%	pH Adjustment	45mg/L
Hydrochloric Acid 35%	pH Adjustment	40mg/L

Phosphoric Acid

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Phosphoric Acid 15%	Corrosion & Scale Control	68mg/L
Phosphoric Acid 36%	Corrosion & Scale Control	28mg/L
Phosphoric Acid 75%	Corrosion & Scale Control	14mg/L
Phosphoric Acid 85%	Corrosion & Scale Control	12mg/L

Polymer Blends[AL]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
MD-1883	Coagulation & Flocculation	250mg/L

[AL] Based on an evaluation of health effects data, the level of aluminum in the finished drinking water shall not exceed 2 mg/L.

Potassium Hydroxide

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
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Potassium hydroxide 10%	Corrosion & Scale Control pH Adjustment	450mg/L
Potassium hydroxide 45%	Corrosion & Scale Control pH Adjustment	100mg/L
Potassium hydroxide 50%	Corrosion & Scale Control pH Adjustment	100mg/L

Sodium Bisulfite[1]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Sodium Bisulfite 25%	Dechlorination	46mg/L
Sodium Bisulfite 38%	Dechlorination	29mg/L

[1] This product contains sulfite.

Sulfites have been known to cause potentially lethal allergic reactions in sulfite-sensitive individuals.

The maximum recommended allowable

residual sulfite level in the finished drinking water is 100 ppb (0.1 mg/L).

Sodium Hydroxide

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Sodium Hydroxide 15%	Corrosion & Scale Control	333mg/L
Sodium Hydroxide 20%	Corrosion & Scale Control	250mg/L
Sodium Hydroxide 25%	Corrosion & Scale Control	200mg/L
Sodium Hydroxide 30%	Corrosion & Scale Control	167mg/L
Sodium Hydroxide 33%	Corrosion & Scale Control	152mg/L
Sodium Hydroxide 50%	Corrosion & Scale Control	100mg/L

Sodium Hypochlorite[HY]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Sodium Hypochlorite 12.5%	Disinfection & Oxidation	84mg/L

[HY] The residual levels of chlorine (hypochlorite ion and hypochlorous acid), chlorine dioxide, chlorate ion, chloramine and disinfection by-products shall be monitored in the finished drinking water to ensure compliance to all applicable regulations. Also, reference the AWWA B300 (Hypochlorites) standard's Recommendations for the Handling and Storage of Hypochlorite Solutions appendix for information on preservation techniques for hypochlorite bleach in transit and storage.

Sodium Polyphosphates, Glassy

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Sodium Hexametaphosphate Solution 16%	Corrosion & Scale Control	56mg/L

Sulfuric Acid

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Sulfuric Acid 20%	Corrosion & Scale Control pH Adjustment	233mg/L
Sulfuric Acid 25%	Corrosion & Scale Control pH Adjustment	186mg/L
Sulfuric Acid 30%	Corrosion & Scale Control pH Adjustment	153mg/L
Sulfuric Acid 33%	Corrosion & Scale Control pH Adjustment	141mg/L
Sulfuric Acid 36%	Corrosion & Scale Control pH Adjustment	129mg/L
Sulfuric Acid 50%	Corrosion & Scale Control pH Adjustment	93mg/L
Sulfuric Acid 70%	Corrosion & Scale Control pH Adjustment	66mg/L
Sulfuric Acid 78%	Corrosion & Scale Control pH Adjustment	60mg/L
Sulfuric Acid 93%	Corrosion & Scale Control pH Adjustment	50mg/L

Facility : Santa Fe Springs, CA**Blended Coagulation Chemicals[AL] [PY]**

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
MP-1483	Coagulation & Flocculation	50mg/L
MP-1683	Coagulation & Flocculation	100mg/L

[AL] Based on an evaluation of health effects data, the level of aluminum in the finished drinking water shall not exceed 2 mg/L.

[PY] Polyamines Certified by NSF International comply with 40 CFR 141.111 requirements for percent monomer and dose.

Citric Acid

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Citric Acid	pH Adjustment	100mg/L

Hydrochloric Acid

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Hydrochloric Acid 10%	pH Adjustment	140mg/L
Hydrochloric Acid 15%	pH Adjustment	93mg/L

Hydrochloric Acid 20%	pH Adjustment	70mg/L
Hydrochloric Acid 25%	pH Adjustment	56mg/L
Hydrochloric Acid 28%	pH Adjustment	50mg/L
Hydrochloric Acid 31%	pH Adjustment	45mg/L
Hydrochloric Acid 35%	pH Adjustment	40mg/L

Phosphoric Acid

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Phosphoric Acid 15%	Corrosion & Scale Control	68mg/L
Phosphoric Acid 36%	Corrosion & Scale Control	28mg/L
Phosphoric Acid 75%	Corrosion & Scale Control	14mg/L
Phosphoric Acid 85%	Corrosion & Scale Control	12mg/L

Polymer Blends[AL]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
MD-1883	Coagulation & Flocculation	250mg/L

[AL] Based on an evaluation of health effects data, the level of aluminum in the finished drinking water shall not exceed 2 mg/L.

Potassium Hydroxide

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Potassium hydroxide 10%	Corrosion & Scale Control pH Adjustment	450mg/L
Potassium hydroxide 45%	Corrosion & Scale Control pH Adjustment	100mg/L
Potassium hydroxide 50%	Corrosion & Scale Control pH Adjustment	100mg/L

Sodium Bisulfite[1]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Sodium Bisulfite 25%	Dechlorination	46mg/L
Sodium Bisulfite 38%	Dechlorination	29mg/L

[1] This product contains sulfite.

Sulfites have been known to cause potentially lethal allergic reactions in sulfite-sensitive individuals.

The maximum recommended allowable

residual sulfite level in the finished drinking water is 100 ppb (0.1 mg/L).

Sodium Hydroxide

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
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Sodium Hydroxide 15%	Corrosion & Scale Control	333mg/L
Sodium Hydroxide 20%	Corrosion & Scale Control	250mg/L
Sodium Hydroxide 25%	Corrosion & Scale Control	200mg/L
Sodium Hydroxide 30%	Corrosion & Scale Control	167mg/L
Sodium Hydroxide 33%	Corrosion & Scale Control	152mg/L
Sodium Hydroxide 50%	Corrosion & Scale Control	100mg/L

Sodium Hypochlorite[HY]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Sodium Hypochlorite 12.5%	Disinfection & Oxidation	84mg/L

[HY] The residual levels of chlorine (hypochlorite ion and hypochlorous acid), chlorine dioxide, chlorate ion, chloramine and disinfection by-products shall be monitored in the finished drinking water to ensure compliance to all applicable regulations. Also, reference the AWWA B300 (Hypochlorites) standard's Recommendations for the Handling and Storage of Hypochlorite Solutions appendix for information on preservation techniques for hypochlorite bleach in transit and storage.

Sodium Polyphosphates, Glassy

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Sodium Hexametaphosphate Solution 16%	Corrosion & Scale Control	56mg/L

Sulfuric Acid

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Sulfuric Acid 20%	Corrosion & Scale Control pH Adjustment	233mg/L
Sulfuric Acid 25%	Corrosion & Scale Control pH Adjustment	186mg/L
Sulfuric Acid 30%	Corrosion & Scale Control pH Adjustment	153mg/L
Sulfuric Acid 33%	Corrosion & Scale Control pH Adjustment	141mg/L
Sulfuric Acid 36%	Corrosion & Scale Control pH Adjustment	129mg/L
Sulfuric Acid 50%	Corrosion & Scale Control pH Adjustment	93mg/L
Sulfuric Acid 70%	Corrosion & Scale Control pH Adjustment	66mg/L
Sulfuric Acid 78%	Corrosion & Scale Control pH Adjustment	60mg/L
Sulfuric Acid 93%	Corrosion & Scale Control pH Adjustment	50mg/L

Facility : Sherwood, OR**Aluminum Chlorohydrate[AL]**

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Aluminum Chlorohydrate Solution	Coagulation & Flocculation	250mg/L
M-1883	Coagulation & Flocculation	250mg/L

[AL] Based on an evaluation of health effects data, the level of aluminum in the finished drinking water shall not exceed 2 mg/L.

Aluminum Sulfate[AL]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
A-0800	Coagulation & Flocculation	150mg/L
Aluminum Sulfate	Coagulation & Flocculation	150mg/L

[AL] Based on an evaluation of health effects data, the level of aluminum in the finished drinking water shall not exceed 2 mg/L.

Blended Coagulation Chemicals[AL] [PY]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
MP-1483	Coagulation & Flocculation	50mg/L

[AL] Based on an evaluation of health effects data, the level of aluminum in the finished drinking water shall not exceed 2 mg/L.

[PY] Polyamines Certified by NSF International comply with 40 CFR 141.111 requirements for percent monomer and dose.

Citric Acid

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Citric Acid	pH Adjustment	100mg/L

Polymer Blends[AL] [PY]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
CP-0954	Coagulation & Flocculation	100mg/L
ND 0948	Coagulation & Flocculation	200mg/L
Polyaluminum Hydroxychlorosulfate	Coagulation & Flocculation	100mg/L

[AL] Based on an evaluation of health effects data, the level of aluminum in the finished drinking water shall not exceed 2 mg/L.

[PY] Polyamines Certified by NSF International comply with 40 CFR 141.111 requirements for percent monomer and dose.

Sodium Hydroxide

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Sodium Hydroxide Solutions 25%	Corrosion Control pH Adjustment	200mg/L
Sodium Hydroxide Solutions 50%	Corrosion Control pH Adjustment	100mg/L

Sodium Hypochlorite[HY]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Sodium Hypochlorite 12.5%	Disinfection & Oxidation	84mg/L
Starchlor	Disinfection & Oxidation	84mg/L

[HY] The residual levels of chlorine (hypochlorite ion and hypochlorous acid), chlorine dioxide, chlorate ion, chloramine and disinfection by-products shall be monitored in the finished drinking water to ensure compliance to all applicable regulations. Also, reference the AWWA B300 (Hypochlorites) standard's Recommendations for the Handling and Storage of Hypochlorite Solutions appendix for information on preservation techniques for hypochlorite bleach in transit and storage.

Sulfuric Acid

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Sulfuric Acid 36%	pH Adjustment	129mg/L
Sulfuric Acid 50%	pH Adjustment	93mg/L
Sulfuric Acid 93%	pH Adjustment	50mg/L

Facility : Tacoma, WA

Sodium Hydroxide

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Sodium Hydroxide Solution 25%	Corrosion Control pH Adjustment	200mg/L
Sodium Hydroxide Solution 50%	Corrosion Control pH Adjustment	100mg/L

Sodium Hypochlorite[HY]

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Sodium Hypochlorite 12.5%	Disinfection & Oxidation	40mg/L

[HY] The residual levels of chlorine (hypochlorite ion and hypochlorous acid), chlorine dioxide, chlorate ion, chloramine and disinfection by-products shall be monitored in the finished drinking water to ensure compliance to all applicable regulations. Also, reference the AWWA B300 (Hypochlorites) standard's Recommendations for the Handling and Storage of Hypochlorite Solutions appendix for information on preservation techniques for hypochlorite bleach in transit and storage.

Facility : Distribution Center - 3 USA

Sodium Hydroxide

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Sodium Hydroxide Solution 25%	Corrosion Control pH Adjustment	200mg/L
Sodium Hydroxide Solution 50%	Corrosion Control pH Adjustment	100mg/L

Number of matching Manufacturers is 1

Number of matching Products is 101

Processing time was 1 seconds

SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI and Canadian WHMIS Standards

Northstar Chemical

Northstar Chemical, Inc.

Citric Acid Solution (1 - 55%)

SDS No: 1050

Revision Date: 04/03/2017

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME (AS LABELED): **CITRIC ACID SOLUTION (1 - 55%)**

CHEMICAL NAME/CLASS: Citric acid solution

PRODUCT USE:

SUPPLIER/MANUFACTURER'S NAME: **Northstar Chemical, Inc.**
ADDRESS: **Corporate Office**
14200 S.W. Tualatin-Sherwood Rd.
Sherwood, OR 97140

BUSINESS PHONE: 888-793-9476

EMERGENCY PHONE: **CHEMTREC:** 800-424-9300

DATE OF PREPARATION: January 13, 2015

Si usted no entiende las Hojas de Informacion de Seguridad sobre Materials, busque a alguien para que se la explique a usted en detalle.

(If you do not understand the Safety Data Sheet, find someone to explain it to you in detail.)

2. HAZARD IDENTIFICATION

Health hazards

Serious eye damage/irritation

Category 2A

LABEL ELEMENTS:

Signal Word: WARNING



skin and eye irritant

Hazard Statement: Causes serious eye irritation

Precautionary Statement:

- Prevention:** Wash hands thoroughly after handling. Wear eye protection/face protection.
- Response:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. If eye irritation persists: Seek medical attention.
- Storage:** Store in a well ventilated place. Keep container tightly closed.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS Number	Concentration
Water	7732-18-5	45-99 %
Citric Acid, anhydrous	77-92-9	1-55 %

4. FIRST-AID MEASURES

- Ingestion:** Immediately drink water to dilute. Consult a physician if symptoms develop. Never give anything by mouth to an unconscious person.
- Inhalation:** Remove individual to fresh air. Seek medical attention.
- Skin Contact:** Flush skin with water, rinse thoroughly.
- Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids apart. Call a physician immediately.

5. FIRE-FIGHTING MEASURES

- FLASH POINT, °C (method):** Not flammable.
- Suitable extinguishing media:** Not applicable. Choose extinguishing media suitable for surrounding materials.
- Specific hazards arising from the chemical:** Will produce oxides of carbon if evaporated and burned.
- Special protective equipment and Precautions for fire-fighters:** In case of fire, use fire fighting equipment appropriate to the cause of the fire.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective Equipment and emergency procedures:** Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation.
- Environmental precautions:** Stop source of spill as soon as possible and notify appropriate personnel. Utilize emergency response personal protective equipment prior to the start of any response. Evacuate all non-essential personnel.
- Methods and materials for containment and cleaning up:** Absorb spilled liquid with vermiculite, polypads or other suitable absorbent materials, then place in a suitable chemical waste container. Contain all contaminated water for disposal and/or treatment.

7. HANDLING and STORAGE

Precautions for safe handling: Wear appropriate personal protective equipment. Avoid contact with skin, eyes or clothing. Upon contact with skin or eyes, wash with water. Avoid breathing mist. Wash hands after handling this product. Do not eat or drink while handling this material.

Conditions for safe storage:

For Non-Bulk Containers: Open containers slowly, on a stable surface. Containers of this product must be properly labeled. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers, or in a diked area, as appropriate. Store containers away from incompatible chemicals. Keep container tightly closed when not in use. Wash thoroughly after using this material. Storage areas should be made of fire-resistant materials. If appropriate, post warning signs in storage and use areas. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Empty containers may contain residual liquid, therefore, empty containers should be handled with care.

Bulk Containers: All tanks and pipelines which contain this material must be labeled. Perform routine maintenance on tanks or pipelines which contain this product. Report all leaks immediately to the proper personnel.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

Engineering Controls: Good general ventilation should be used.

Individual protection measures, such as personal protective equipment

Eye/Face Protection: Use chemical goggles.

Skin Protection: Wear protective gloves.

Respiratory Protection: Respiratory protection is not normally needed since volatility and toxicity are low. If vapors or mists are generated, wear a NIOSH approved respirator.

Hygiene measures: A safety shower and eyewash station should be provided. Keep the product away from food, beverages and feed. Wash hands after handling the material and before eating, drinking and/or smoking. Avoid contact with eyes and skin. Routinely wash work clothing to remove contaminants.

9. PHYSICAL and CHEMICAL PROPERTIES

Appearance and Color:	liquid, colorless
Odor:	odorless
Odor threshold:	not applicable
pH:	0.8
Melting/freezing point:	-5°C (23°F).
Boiling point:	103°C (219°F).
Flash point:	not flammable
Evaporation rate (n-BuAc=1):	0.33
Vapor pressure:	16 mmHG
Vapor density (air = 1):	0.62
Relative density (specific gravity):	1.24 (at 20°C)
Solubility in water:	completely soluble
Partition coefficient (n-octanol/water):	not available

10. STABILITY and REACTIVITY

Reactivity:	This product is non-reactive under recommended storage conditions.
Chemical stability:	Stable under normal conditions
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Contact with incompatible materials
Incompatible materials:	Strong oxidizing agents.
Hazardous decomposition products:	Oxides of carbon if burned.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Ingestion	May cause irritation of the gastrointestinal tract.
Inhalation:	May cause irritation to the mucous membranes and upper respiratory tract.
Skin Contact:	May cause irritation.
Eye Contact:	Causes serious eye irritation.

Information on toxicological effects

Carcinogenicity:	This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.	
Sensitization:	This product is not a skin sensitizer.	
Reproductive Toxicity:	This product is not reported to cause reproductive effects in humans.	
Mutagenicity:	This product is not reported to produce mutagenic effects in humans.	
Embryotoxicity:	This product is not reported to produce embryotoxic effects in humans.	
Teratogenicity:	This product is not reported to cause teratogenic effects in humans.	
Toxicity Data:	LD ₅₀ (oral, rat) = 6,730 mg/kg	LC ₅₀ (inhalation) = No data

12. ECOLOGICAL INFORMATION

Ecotoxicity

Acute hazards to the aquatic environment: No data available

Chronic hazards to the aquatic environment: No data available

Bioaccumulative potential: No data available.

Other information: Do not allow material to be released to the environment without proper governmental permits.

13. DISPOSAL CONSIDERATIONS

Disposal Instructions: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

Contaminated packaging: The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all local, state and federal laws.

Potential US EPA Waste Codes: Not applicable

14. TRANSPORTATION INFORMATION

This material is not hazardous as defined by 49 CFR 172.101 by the U.S. Department of Transportation.

Proper shipping name, hazard class, UN number, packing group and emergency guide number: Not Regulated.

Labels required per 49 CFR 172.101: None

Reportable quantity per 49 CFR 172.101: None

15. REGULATORY INFORMATION

This product is not considered a Hazardous Chemical by the OSHA Hazard Communication Standard, 29 CFR 1910.1200

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed

CERCLA Hazardous Substance List (40 CFR 302.4): Not listed

Superfund Amendment and Reauthorization Act of 1986 (SARA), Hazard Category: Acute

SARA 302 Extremely hazardous substance: Not regulated

SARA 304 Emergency release notification: Not regulated

SARA 311/312 Hazardous chemical: Citric Acid threshold planning quantity = 500 lbs

SARA 313 (TRI reporting): Not regulated

Other Federal Regulations: Not applicable.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Not regulated

Safe Drinking Water Act (SDWA): Not regulated

State Regulatory Information: Components of this product are covered under specific State regulations, as denoted below:

Massachusetts – Right To Know Substance List - Not Listed.

New Jersey - Right to Know Hazardous Substance List – Not Listed.

Pennsylvania – Community Right to Know – Not Listed.

Rhode Island – Right To Know Hazardous Substance List – Note Listed.

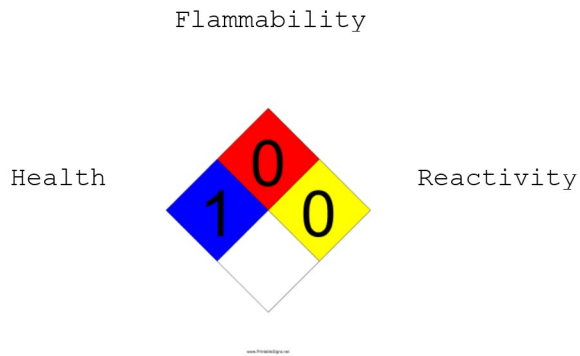
California Proposition 65 – Carcinogens & Reproductive Toxicity list of substances - Not Listed.

Label Information:



skin and eye irritant

NFPA 704 Rating:



- 0 (Minimal)
- 1 (Slight)
- 2 (Moderate)
- 3 (Serious)
- 4 (Severe)

16. OTHER INFORMATION

DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a Safety Data Sheet. Some of these which are commonly used include the following:

CAS #: This is the Chemical Abstract Service Number which uniquely identifies each constituent. It is used for computer-related searching.

EXPOSURE LIMITS IN AIR:

ACGIH - American Conference of Governmental Industrial Hygienists, a professional association which establishes exposure limits.

TLV - Threshold Limit Value - an airborne concentration of a substance which represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour **Time Weighted Average (TWA)**, the 15-minute **Short Term Exposure Limit**, and the instantaneous **Ceiling Level**. Skin adsorption effects must also be considered.

OSHA - U.S. Occupational Safety and Health Administration.

PEL - Permissible Exposure Limit - This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL," is placed next to the PEL which was vacated by Court Order.

IDLH - Immediately Dangerous to Life and Health - This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury. **The DFG - MAK** is the Republic of Germany's Maximum Exposure Level, similar to the U.S. PEL. **NIOSH** is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. Occupational Safety and Health Administration (**OSHA**). NIOSH issues exposure guidelines called **Recommended Exposure Levels (RELs)**. When no exposure guidelines are established, an entry of **NE** is made for reference.

HAZARD RATINGS:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: Health Hazard: **0** (minimal acute or chronic exposure hazard); **1** (slight acute or chronic exposure hazard); **2** (moderate acute or significant chronic exposure hazard); **3** (severe acute exposure hazard; onetime over-exposure can result in permanent injury and may be fatal); **4** (extreme acute exposure hazard; onetime over-exposure can be fatal). Flammability Hazard: **0** (minimal hazard); **1** (materials that require substantial pre-heating before burning); **2** (combustible liquid or solids; liquids with a flash point of 38-93°C [100-200°F]); **3** (Class IB and IC flammable liquids with flash points below 38°C [100°F]); **4** (Class IA flammable liquids with flash points below 23°C [73°F] and boiling points below 38°C [100°F]). Reactivity Hazard: **0** (normally stable); **1** (material that can become unstable at elevated temperatures or which can react slightly with water); **2** (materials that are unstable but do not detonate or which can react violently with water); **3** (materials that can detonate when initiated or which can react explosively with water); **4** (materials that can detonate at normal temperatures or pressures).

NATIONAL FIRE PROTECTION ASSOCIATION: Health Hazard: **0** (material that on exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials); **1** (materials that on exposure under fire conditions could cause irritation or minor residual injury); **2** (materials that on intense or continued exposure under fire conditions could cause temporary incapacitation or possible residual injury); **3** (materials that can on short exposure could cause serious temporary or residual injury); **4** (materials that under very short exposure could cause death or major residual injury). Flammability Hazard and Reactivity Hazard: Refer to definitions for "Hazardous Materials Identification System".

FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the **National Fire Protection Association (NFPA)**. Flash Point - Minimum temperature at which a liquid gives off sufficient vapors to form an ignitable mixture with air. Autoignition Temperature: The minimum temperature required to initiate combustion in air with no other source of ignition. LEL - the lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. UEL - the highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

TOXICOLOGICAL INFORMATION:

Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. Definitions of some terms used in this section are: **LD₅₀** - Lethal Dose (solids & liquids) which kills 50% of the exposed animals; **LC₅₀** - Lethal Concentration (gases) which kills 50% of the exposed animals; **ppm** concentration expressed in parts of material per million parts of air or water; **mg/m³** concentration expressed in weight of substance per volume of air; **mg/kg** quantity of material, by weight, administered to a test subject, based on their body weight in kg. Data from several sources are used to evaluate the cancer-causing potential of the material. The sources are: **IARC** - the International Agency for Research on Cancer; **NTP** - the National Toxicology Program, **RTECS** - the Registry of Toxic Effects of Chemical Substances, **OSHA** and **CAL/OSHA**. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. Other measures of toxicity include **TDLo**, the lowest dose to cause a symptom and **TCLo** the lowest concentration to cause a symptom; **TDo**, **LDLo**, and **LDo**, or **TC**, **TCo**, **LCLo**, and **LCo**, the lowest dose (or concentration) to cause death. **BEI** - Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

REGULATORY INFORMATION:

This section explains the impact of various laws and regulations on the material. **EPA** is the U.S. Environmental Protection Agency. **WHMIS** is the Canadian Workplace Hazardous Materials Information System. **DOT** and **TC** are the U.S. Department of Transportation and the Transport Canada, respectively. Other acronyms used are: **Superfund Amendments and Reauthorization Act (SARA)**; the **Toxic Substance Control Act (TSCA)**; Marine Pollutant status according to the **DOT**; California's Safe Drinking Water Act (**Proposition 65**); the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund)**; and various state regulations. This section also includes information on the precautionary warnings which appear on the materials package label.