

**BAY AREA CHEMICAL CONSORTIUM  
BID FORM FOR BID NO. 05-2024  
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/about-bacc/>

No later than 4:00 PM. PT  
Thursday, February 22, 2024

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 - Executive Vice President

Signature: 

Date: 2/6/2024

**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:**

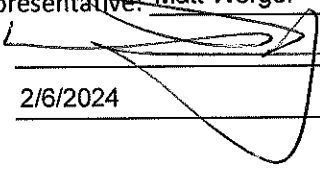
- a. All requirements listed in Section 2.21 Manufacturer's Info.
- b. If applicable, the name, address, and contact information for the third party hauling company as well as an affidavit signed by the Bidder that the third party hauler can and will deliver the chemical to each and every participating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

**BAY AREA CHEMICAL CONSORTIUM  
STANDARD AGREEMENT, PAGE 1 OF 2  
BID NO. 05-2024  
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 - Executive Vice President  
Signature:   
Date: 2/6/2024

WE ACKNOWLEDGE RECEIVING ADDENDUM/ADDENDA NUMBER \_\_\_\_\_ 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 Road, Sherwood, OR 97140
  
3. Mailing Address:  
14200 SW Tualatin-Sherwood Road, Sherwood, OR 97140
  
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: 46-3038886
  
8. Emergency Contact:      Name: Scott Lewis  
Phone Number: 209-605-8197
  
9. Order Contact:      Name: Customer Service - Main  
Address: 572 Codoni Ave, Modesto, CA 95357  
Phone Number: 855-355-7014 Fax Number: \_\_\_\_\_  
Email: bidsca@northstarchemical.com
  
10. References:

<u>Company/Agency Name</u>	<u>Contact Name</u>	<u>Phone Number</u>
<u>1) City of Lodi</u>	<u>Travis Kahrs</u>	<u>209-333-6878</u>
<u>2) City of Clovis</u>	<u>Leon Penney</u>	<u>559-324-3038</u>
<u>3) Turlock USD</u>	<u>Nancy Leonard</u>	<u>209-667-0578</u>
  
11. Chemical Manufacturer's name and address (if different from Bidder):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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


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

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.

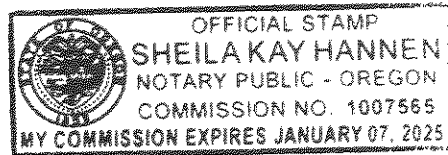
  
\_\_\_\_\_  
Signature of: ~~President, Secretary,~~  
Manager, Owner, or Representative

Subscribed and sworn to before me this, 8th day of February, 20 24

Sheila Hannen  
Signature of Notary Public In and For

The County of Washington

State of Oregon



**All Signatures Must Be Witnessed By Notary**

## 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 @ 60° F		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, 12<sup>th</sup> Edition. Meeting the specification of the Food Chemicals 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.



The Public Health and Safety Organization

## NSF Product and Service Listings

These NSF Official Listings are current as of **Wednesday, February 14, 2024** 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>
--------------------------	-------------------------	----------------

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

**Miscellaneous Treatment Chemical**

<i>Trade Designation</i>	<i>Product Function</i>	<i>Max Use</i>
Vitec 4000	Reverse Osmosis Antiscalant	7mg/L
Vitec 4000 11%	Reverse Osmosis Antiscalant	63mg/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>
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 M-1883	Coagulation & Flocculation Coagulation & Flocculation	250mg/L 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 Aluminum Sulfate	Coagulation & Flocculation Coagulation & Flocculation	150mg/L 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 103

Processing time was 0 seconds



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

**PRODUCT SPECIFICATION**  
**Citric Acid Anhydrous Granular 12-40 Mesh**  
**(USP/BP/FCC/E330/EP)**

Characters	Colorless Crystals or White Crystalline powder
Identification	Pass Test
Clarity & color of Solution	Pass Test
Barium	Pass Test
Assay %	99.5-100.5
Moisture %	$\leq 0.3$
Calcium mg/kg	$\leq 100$
Iron mg/kg	$\leq 5$
Arsenic mg/kg	$\leq 1$
Oxalate mg/kg	$\leq 100$
Heavy Metals mg/kg	$\leq 5$
Readily Carbonisable Substances	Pass Test
Sulphate mg/kg	$\leq 150$
Sulphate ASH/Residue on Ignition %	$\leq 0.05$
Chloride mg/kg	$\leq 50$
Organic Volatile Impurity	Pass Test
Bacterial Endotoxins I.U./MG	$\leq 0.5$
Nickel mg/kg	$\leq 1$
Cobalt mg/kg	$\leq 1$
Mercury mg/kg	$\leq 1$
Lead mg/kg	$\leq 0.5$
Chromium mg/kg	$\leq 1$
Aluminum mg/kg	$\leq 0.2$
Added Sugar	N/A
Mesh Size	12-40

## Certificate of Analysis

Product	Citric Acid Anhydrous Granular	Quantity	20 MT
Lot No.	AA-23122198-G	Manufacturing Date	12/17/2023
APAC Ref	CAA-230601-409	Analysis Date	12/19/2023
Packing	1000 KG	Expiry Date	12/16/2026

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%	0.10%
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	<0.10
Cobalt	≤ 1 mg/kg	Not detected
Mercury	≤ 0.5 mg/kg	Not detected
Lead	≤ 0.5 mg/kg	<0.03
Chromium	≤ 1 mg/kg	Not detected
Aluminium	≤ 0.2 mg/kg	Not detected
Mesh Size	12-40	12-40

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