

AGREEMENT FOR THE PURCHASE OF GOODS AND SERVICES

THIS AGREEMENT FOR THE PURCHASE OF GOODS AND SERVICES ("Agreement") is made _____, 2018 between Northstar Chemical ("Contractor"), whose address is 14200 SW Tualatin-Sherwood Rd, Sherwood OR, and telephone number is 503-625-3770 and the City of Stockton, a municipal corporation ("City").

In consideration of the mutual promises set forth in this Agreement, the parties agree as follows:

1. Goods to be provided and services to be performed. Contractor shall provide the goods and perform the services as set forth in the Request for Bid documents and on the attached Exhibit A incorporated herein by reference. Contractor shall begin providing the goods/performing the services on July 1, 2018 and complete providing the goods/performing the services by June 30, 2019. The parties may agree to extend the contract on a year-to-year basis, not to exceed three (3) yearly renewals. The price for any succeeding period of service shall be agreed upon by both parties.
2. Compensation. For the goods and services under this Agreement, City shall pay Contractor the sum of \$5.59 per gallon for delivery of Citric Acid. The not-to exceed amount for the potential 4-year contract term is \$84,200.
3. Method of Payment. City shall pay Contractor within 30 days from the date Contractor's invoices are approved by the City Manager. Contractor shall submit monthly invoices.
4. Maintenance. Contractor shall maintain the goods as set forth in Exhibit A at a cost as set forth in Exhibit A. Contractor shall respond to calls for required maintenance from City personnel within 24 hours of the call; required maintenance occurs when the self check system fails to perform any of its functions. If Contractor is unable to resolve routine maintenance issues by phone within 48 hours, Contractor shall provide to City personnel a resolution report indicating how and when the Contractor intends to resolve the issue. Within the period of the maintenance agreement, Contractor shall implement all software and firmware upgrades to the goods identified in Exhibit A at no cost to City. If software and firmware upgrades require a hardware upgrade, Contractor shall provide the upgraded hardware at no cost to the City. City personnel shall review and approve any upgrades prior to their installation.
5. Warranty. Contractor warrants that for one year the goods installed shall be free of defects in materials and workmanship. The one year period shall begin upon the date the City provides in writing to Contractor acceptance of the goods. The warranty under this section shall provide coverage equal to or greater than those warranties that are customary in the industry and, at a minimum, include all parts and labor,
6. Hold Harmless. To the fullest extent permitted by law, Contractor shall hold harmless, defend at its own expense, and indemnify the City of Stockton, its Mayor,

Council, officers, representatives, agents, employees and volunteers, against any and all liability, claims, losses, damages, or expenses, including reasonable attorney's fees, arising from all acts or omissions to act of contractor or its officers, agents, or employees in rendering services under this contract; excluding, however, such liability, claims, losses, damages, or expenses arising from the City of Stockton's sole negligence or willful acts. The duty to defend and the duty to indemnify are separate and distinct obligations. The indemnification obligations of this section shall survive the termination of this agreement.

7. Insurance. During the term of this Agreement, Contractor shall maintain in full force and effect at its own cost and expense the insurance coverage set forth on the attached Exhibit B and shall otherwise comply with the provisions of Exhibit B.

8. Business License. Prior to its execution of this Agreement, Contractor shall obtain a City business license.

9. Audit. City reserves the right to periodically audit all charges for good and services provided by Contractor.

10. Ownership of Goods. All goods accepted by the City shall be the property of the City.

11. Changes to the Agreement. This Agreement may not be modified except in writing by both parties.

12. Applicable Law. This Agreement shall be governed by the laws of the State of California and venue for any action brought in state court shall be in the Superior Court, County of San Joaquin, Stockton Branch or, for actions brought in federal court, the United States District Court for the Eastern District of California, Sacramento Division.

13. Non-Assignability. Contractor shall not assign or transfer this Agreement or any interest or obligation in this Agreement without the prior written consent of the City and then only upon such terms and conditions as City may set forth in writing.

14. Notices. All notices herein required shall be in writing and shall be sent certified or registered mail, postage prepaid, addressed as follows:

To Contractor:	<u>Julie DeBellis</u>	To City:	City Manager
	<u>Northstar Chemical</u>		City of Stockton
	<u>14200 SW Tualatin-Sherwood Rd</u>		425 N. El Dorado St.
	<u>Sherwood, OR 97140</u>		Stockton, CA 95202

15. Conformance to Applicable Laws. Contractor shall comply with all applicable Federal, State and Municipal laws, rules and ordinances. Contractor shall not discriminate in the employment of persons or in providing services under this

Agreement on the basis of any legally protected classification including race, color, national origin, sex or religion of such person.

16. Miscellaneous Provisions.

a. City may terminate this Agreement at any time by mailing notice to Contractor at the address first stated above. Contractor shall be paid for that portion of goods provided / services provided when notice is received.

b. Contractor shall not assign or transfer this Agreement.

c. In the performance of this Agreement, Contractor, its employees and agents shall have the status of an independent contractor and not as an employee of the City for any purpose.

d. If either City or Contractor waives a breach of this Agreement, such waiver shall not constitute a waiver of other or succeeding breaches of this Agreement.

e. This Agreement constitutes the entire understanding of the parties.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the date and year first above written.

CITY OF STOCKTON

KURT O. WILSON
CITY MANAGER

CONTRACTOR

By: _____

Signature

Print name

Title

[If Contractor is a corporation, signatures must comply with Corporations Code §313]

ATTEST:

APPROVED AS TO FORM

BRET HUNTER, CMC
CITY CLERK

CITY ATTORNEY

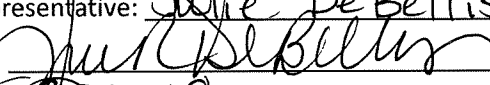
EXHIBIT A

BAY AREA CHEMICAL CONSORTIUM
STANDARD AGREEMENT, PAGE 1 OF 2
BID NO. 05-2018
SUPPLY AND DELIVERY OF CITRIC ACID

Bay Area Chemical Consortium (BACC)
c/o Dublin San Ramon Services District
Regional Wastewater Treatment Facility
7399 Johnson Drive
Pleasanton, CA 94588

Dear Sirs:

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: Northeast Chemical
Address: 14200 SW Tualatin-Sherwood Rd
City, State, ZIP: Sherwood, OR 97140
Phone: 503-625-3770
Email: jdebellis@northeastchemical.com
Authorized Representative: Julie DeBellis
Signature: 
Date: 8-26-18

WE ACKNOWLEDGE RECEIVING ADDENDUM/ADDENDA NUMBER 1 THROUGH 1.

SPECIFIC DEVIATIONS (if applicable, attach additional sheets if necessary):

STANDARD AGREEMENT, PAGE 2 OF 2

BIDDER INFORMATION

1. Legal Name of Bidder: Pacific Star Chemical AD&A of Northstar Chemical
2. Bidder's Street Address: 14200 SW Tualatin-Sherwood Rd. Sherwood, OR 97140
3. Mailing Address: 14200 SW Tualatin-Sherwood Rd. 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: _____
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: Nicki Long
 Address: 872 Codoni Ave Modesto, CA 95357
 Phone Number: 855-355-7014 Fax Number: 844-211-6665
 Email: Ordersmodesto@northstarchemical.com
10. References:

Company/Agency Name	Contact Name	Phone Number
1) <u>Santa Clara Water</u>	<u>Banette Lewis</u>	<u>408-630-2600 x 2224</u>
2) <u>Turlock Irrigation</u>	<u>Debbie Snickert</u>	<u>209-883-8403</u>
3) <u>S. San Joaquin Water</u>	<u>Matthew Gonzales</u>	<u>209-844-1513</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)
) ss.
County of Washington)

Julie DeBellis, being first duly sworn, deposes and says that he or she is
(Contractor's Authorized Representative)

Customer Service Mgr of Norstar Chemical the party making the
(Title of Representative) (Contractor's Name)

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.

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

Subscribed and sworn to before me this, 30th day of March, 2018

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. 05-2018**

Sealed bids must be enclosed in an envelope clearly marked:

**"BID FOR CITRIC ACID
BACC BID NO. 05-2018"**

And delivered to:

Gemma Lathi
Administrative Analyst – Operations
Dublin San Ramon Services District
Regional Wastewater Treatment Facility
7399 Johnson Drive
Pleasanton, CA 94588

**No later than 9:00 A.M. PDT
Tuesday, April 10, 2018**

Business Name:

Northeast Chemical

Business Address

14200 SW Tualatin-Sherwood Rd
Sherwood, OR 97140

Telephone Number: 503-625-3770

Facsimile Number: 503-625-1478

Email Address: jdebellis@northeastchemical.com

Authorized Representative (Please Print):

Julie DeBellis

Signature: [Signature]

Date: 03-26-18

- I. All costs except California State sales tax for the purchase of Citric Acid must be included in the amount shown below on this Bid Form, 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 attached Exhibit A to Bid Form.**
- II. Bidders must submit all of the following, attached to this Bid Form:**
- An affidavit of compliance to the appropriate American Water Works Association (AWWA) and/or National Sanitation Foundation (NSF) standard is required for all chemicals and polymers being provided for potable water treatment. Bidders must include a statement by the chemical manufacturer, signed by an authorized representative on letterhead stationery, attesting to the affidavit's validity. In lieu of submitting an affidavit of compliance with AWWA/NSF standards and a letter attesting to the affidavit's validity, a current printout from NSF.org is acceptable.
 - A representative analysis of the chemical to be supplied, as prepared by a reputable outside laboratory or bidder's in-house laboratory if ISO certified.
 - Product Bulletin and Typical Properties.
 - Safety Data Sheet (SDS).
 - 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.

Northstar

BAY AREA CHEMICAL CONSORTIUM
EXHIBIT A TO BID FORM
BID NO. 05-2018
CITRIC ACID

*Bidders shall submit bids in US\$ per unit of measure as indicated below, FOB Destination.
Refer to paragraph 2.4 Bid Pricing for full details.*

	Unit of Measure	Bid Price per Unit of Measure
Citric Acid		
<u>Central Valley</u>	gal	\$5.59
City of Stockton		
<u>North Bay</u>	gal	\$5.55
Ironhouse Sanitary District		
<u>Sacramento</u>	gal	\$6.27
City of Yuba City		
Citric Acid dry material		
<u>Tri Valley</u>	dry lb	\$.95
Dublin San Ramon Services District		



14200 SW Tualatin Sherwood Rd.
 Sherwood, OR 97140
 (888) 793-9476 Phone
 (503) 625-1478 Fax

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.

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: 01-13-2015

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

1050 Citric Acid Solution, 50%

PAGE 1 OF 7

Revision Date: 01-13-2015

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.

1050 Citric Acid Solution, 50%

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Revision Date: 01-13-2015

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 – Not Listed.

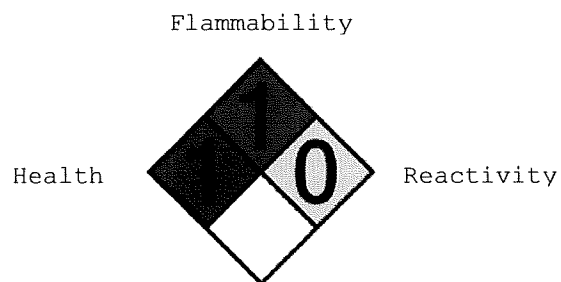
California Proposition 65 – Carcinogens & Reproductive Toxicity list of substances - Not Listed.

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; **TD₀**, **LDLo**, and **LD₀**, or **TC**, **TC₀**, **LCLo**, and **LC₀**, 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.



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

**SAFETY DATA SHEET***Prepared to U.S. OSHA, CMA, ANSI and Canadian WHMIS Standards***NORTHSTAR CHEMICAL INC.**

1. PRODUCT IDENTIFICATION

TRADE NAME (AS LABELED): **CITRIC ACID GRANULAR**

CHEMICAL NAME/CLASS: Organic Acid

PRODUCT USE: Food additive

AREA OF APPLICATION: Consumer applications, Industrial applications,
Professional applications.

SUPPLIER/MANUFACTURER'S NAME: **Northstar Chemical Inc.**

ADDRESS: **Corporate Office**
14200 SW Tualatin Sherwood Rd.
Sherwood, OR 97140

BUSINESS PHONE: 503-6253770

EMERGENCY PHONE: CHEMTREC: 800-424-9300 (24 HR)

DATE OF PREPARATION: March 2015

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

2. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: This product is a clear to white crystal with an odor that ranges between none to a very slightly sugar odor. Skin contact with citric acid can irritate the skin and can cause the skin to redden, sting, and swell at the point of contact. Severe irritation characterized by stinging, reddening, tearing, and swelling can occur following eye exposure. Contact may cause damage to the eye if not treated immediately. Inhalation of this material can be irritating to the nose, mouth, throat and lungs. Emergency responders must wear the proper personal protective equipment suitable for the situation to which they are responding.

2. HAZARD IDENTIFICATION (Continued)

OSHA/HCS STATUS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910 1200)



HAZARD PICTOGRAMS:

SIGNAL WORD: WARNING

PRECAUTIONARY STATEMENTS

- | | |
|-------------------|---|
| General | : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. |
| Prevention | : Wear eye or face protection:
Recommended: safety glasses with side-shields. Wash hands thoroughly after handling. |
| Response | : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. |
| Storage | : Not applicable. |
| Disposal | : Not applicable. |

HAZARDOUS MATERIAL INFORMATION SYSTEM			
HEALTH (BLUE)		1	
FLAMMABILITY (RED)		0	
REACTIVITY (YELLOW)		0	
PROTECTIVE EQUIPMENT			D
EYES	RESPIRATORY	HAND	BOD
	SEE SECTION 8		
For routine industrial applications			

3. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	%w/w	EXPOSURE LIMITS IN AIR				
			ACGIH		OSHA		
			TLV ppm	STEL ppm	PEL ppm	STEL ppm	IDLH ppm
Citric Acid	77-92-9	100	NE	NE	NE	NE	NE

NE = Not Established. C = Ceiling Limit. See Section 16 for Definitions of Terms Used. NOTE: All WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-1993 format.

4. FIRST-AID MEASURES

SKIN EXPOSURE: If the product contaminates the skin, immediately begin decontamination by flush all affected areas with large amounts of soap and running water. Minimum flushing is for 15 minutes. Remove contaminated clothing, taking care not to contaminate eyes. Do not attempt to neutralize with chemical agents. Victim must seek medical attention if irritation develops.

EYE EXPOSURE: If this product enters the eyes, open victim's eyes while under gentle running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. Do not attempt to neutralize. Oils or ointments should not be used at this time. Victim must seek immediate medical attention.

INHALATION: If dust of this product is inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Victim must seek immediate medical attention.

INGESTION: If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, victim should drink water and seek medical attention. Never induce vomiting or give water to someone who is unconscious, having convulsions, or unable to swallow.

Victims of chemical exposure must be taken for medical attention. Rescuers should be taken for medical attention, if necessary. Take a copy of the label and MSDS to health professional with victim.

5. FIRE-FIGHTING MEASURES

FLASH POINT: Not flammable.

AUTOIGNITION TEMPERATURE: NE.

FLAMMABLE LIMITS (in air by volume, %): Lower (LEL): NE.
Upper (UEL): NE.

FIRE EXTINGUISHING MATERIALS:

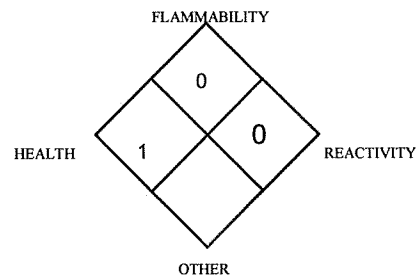
Water Spray: YES **Carbon Dioxide:** YES
Foam: YES **Dry Chemical:** YES
Halon: YES **Other:** Any "ABC" Class.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Not considered to be a fire or an explosion hazard. Use standard fire fighting techniques to extinguish surrounding materials. Citric acid does not pose a fire or explosion hazard. Combustion of citric acid produces carbon dioxide (CO₂) and carbon monoxide (CO).

Explosion Sensitivity to Mechanical Impact: Not sensitive.

Explosion Sensitivity to Static Discharge: Not sensitive.

NFPA RATING



See Section 16 for
Definition of Ratings

SPECIAL FIRE-FIGHTING PROCEDURES: Incipient fire responders should wear eye protection. Structural fire fighters must wear Self-Contained Breathing Apparatus and full protective equipment appropriate for the surrounding fire. Move fire-exposed containers, if it can be done without risk to firefighters. If possible, prevent run-off water from entering storm drains, bodies of water, or other environmentally sensitive areas. If necessary, discard or decontaminate fire response equipment using water before returning such equipment to service.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Avoid breathing dust. When respirators are required, Select NIOSH/MSHA approved based on actual or potential airborne concentrations in accordance with latest OSHA and/or ANSI recommendations. Sweep or vacuum up, place in a bag or other container and dispose in accordance with applicable regulations. Neutralize residue with lime or soda ash or other acid neutralizing agent. Decontaminate the area thoroughly. Test area with litmus paper to confirm neutralization. Place all spill residue in a suitable container. Dispose of in accordance with Federal, State and local hazardous waste disposal regulations (see Section 13 – Disposal Considerations.)

7. HANDLING and STORAGE

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting this product ON YOU or IN YOU. Avoid breathing dust generated by this product. Use in a well-ventilated location. Wash thoroughly after using this material. Do not eat, drink, or smoke while handling this material. Remove contaminated clothing immediately. Use ventilation and other engineering controls to minimize potential exposure to this product.

STORAGE AND HANDLING PRACTICES: All employees who handle this material should be trained to handle it safely. Avoid breathing dust generated by this product. Use in a well-ventilated location.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: If required use local ventilation systems to ensure that there is no potential for overexposure to dust of this product and that exposures are below those in section 2 (Composition and Information on Ingredients). Ensure eyewash/safety shower stations are available near areas where this product is used.

RESPIRATORY PROTECTION: Maintain airborne contaminant concentrations below exposure limits listed in Section 2 (Composition and Information on Ingredients). If respiratory protection is needed, use only protection authorized in 29 CFR 1910.134, or applicable State regulations. If adequate ventilation is not available or if there is potential for airborne exposure above the exposure limits (listed in Section 2) a respirator may be worn up to respirator exposure limitations, check with respirator equipment manufactures recommendations/limitations. For a higher level of protection use positive pressure supplied air respiration protection or Self Contained Breathing Apparatus or if oxygen levels are below 19.5% or are unknown.

EMERGENCY OR PLANNED ENTRY INTO UNKNOWN CONCENTRATIONS OR IDLH CONDITIONS:

Positive pressure, full-facepiece Self Contained Breathing Apparatus; or positive pressure, full-facepiece Self Contained Breathing Apparatus with an auxiliary positive pressure Self Contained Breathing Apparatus.

EYE PROTECTION: Splash goggles or safety glasses.

HAND PROTECTION: Wear appropriate gloves for routine industrial use.

BODY PROTECTION: Use body protection appropriate for task. Cover-all, rubber aprons, or chemical protective clothing made from natural rubber are generally acceptable, depending upon the task.

9. PHYSICAL and CHEMICAL PROPERTIES

RELATIVE VAPOR DENSITY (air = 1): NE

SPECIFIC GRAVITY (water = 1): 1.665

SOLUBILITY IN WATER: Completely soluble. **VAPOR PRESSURE, mm Hg @ 25°C:**

NE ODOR: Odorless to slight sugar odor.

APPEARANCE AND COLOR: Clear to white crystals

BOILING POINT: NE

MELTING/FREEZING POINT: NE

PHYSICAL STATE: Solid

pH: 2 for 1% solution

HOW TO DETECT THIS SUBSTANCE (warning properties): The appearance and odor may be a distinguishing characteristic of this product. Litmus paper will turn red upon contact with this solution.

10. STABILITY and REACTIVITY

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable. Decomposes on heating.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid: Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.

Incompatible materials: Reactive or incompatible with the following materials: oxidizing materials, reducing materials, acids and alkalis.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: The following toxicology Information is for this product:

LD₅₀ (oral, rat) 3 g/kg

Irritation (skin, rabbit) 500 mg/24H mild

Irritation (eye, rabbit) 750 mg/24H severe

SUSPECTED CANCER AGENT: The product's components are not found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, CAL/OSHA and are, therefore, not considered to be, nor suspected to be, cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: Severe irritation characterized by stinging, reddening, tearing, and swelling can occur following eye exposure. Contact may cause damage to the eye if not treated immediately. Skin contact with citric acid can irritate the skin and can cause the skin to redden, sting, and swell at the point of contact.

SENSITIZATION TO THE PRODUCT: This product is not known to cause skin or respiratory sensitization reactions in humans after

11. TOXICOLOGICAL INFORMATION (Continued)

prolonged or repeated exposures.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of this product and its components on the human reproductive system.

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.

Reproductive Toxicity: This product is not reported to cause reproductive effects in humans.

*A **mutagen** is a chemical which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An **embryotoxin** is a chemical which causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A **teratogen** is a chemical which causes damage to a developing fetus, but the damage does not propagate across generational lines. A **reproductive toxin** is any substance which interferes in any way with the reproductive process.*

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin disorders can be aggravated by over-exposure to this mixture. Inhalation of this product may aggravate respiratory conditions.

BIOLOGICAL EXPOSURE INDICES: Currently, Biological Exposure Indices (BEIs) are not applicable to components of this product.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ENVIRONMENTAL STABILITY: The components of this product are relatively stable in the environment. The following environmental data are available for the components of this product over 1 percent by weight:

No information found.

EFFECT OF MATERIAL ON PLANTS or ANIMALS: No information found.

EFFECT OF CHEMICAL ON AQUATIC LIFE: No information found. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. The following aquatic toxicity data are available for the product and its components of this product over 1 percent by weight: Not available.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: 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.

EPA WASTE NUMBER: Not applicable.

BAG DISPOSAL: Insure all product remove from bag, do not reuse empty bag, place in a bag or other container and put in trash.

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: Not regulated.

HAZARD CLASS NUMBER and

DESCRIPTION:

Not regulated.

UN IDENTIFICATION NUMBER:

Not regulated.

PACKING GROUP:

Not regulated.

DOT LABEL(S) REQUIRED:

Not regulated.

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (2000): Not regulated.

MARINE POLLUTANT: This product does not contain any components which are designated by the Department of Transportation to be Marine Pollutants. (49 CFR 172.101, Appendix B).

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: THIS MATERIAL IS NOT CONSIDERED AS DANGEROUS GOODS. Use the above information for the preparation of Canadian Shipments.

15. REGULATORY INFORMATION

SARA REPORTING REQUIREMENTS: The components of this product are not subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA THRESHOLD PLANNING QUANTITY: Not applicable.

U.S. CERCLA REPORTABLE QUANTITY (RQ): Not applicable.

CANADIAN DSL INVENTORY: The components of this product are listed on the DSL Inventory.

U.S. TSCA INVENTORY STATUS: The components of this product are listed on the TSCA

Inventory. OTHER U.S. FEDERAL REGULATIONS: Not applicable.

STATE REGULATORY INFORMATION: Components of this product are covered under specific State regulations, as denoted below: None determined.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): No component of this product is on the California Proposition 65 lists.

LABELING (Precautionary Statements): WARNING! CAUSES SEVERE EYE IRRITATION. CAUSES IRRITATION TO SKIN AND RESPIRATORY TRACT. Do not get into eyes, on skin or clothing. Avoid breathing dust. Do not take internally. Use with adequate ventilation and employ respiratory protection when exposed to dust. When handling, wear chemical splash goggles, face shield, rubber gloves and protective clothing. Do not transfer to unlabeled containers. Wash thoroughly after handling. Keep container closed when not in use. FIRST-AID: In case of contact, immediately flush skin or eyes for at least 15 minutes. Remove contaminated clothes and shoes. If inhaled, move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If ingested, get medical attention. IN CASE OF FIRE: Use water, dry chemical, CO₂ or alcohol foam. IN CASE OF SPILL: Absorb with an inert material. Refer to MSDS for additional information.

CANADIAN WHMIS SYMBOLS: Not Regulated.

16. OTHER INFORMATION

INFORMATION SOURCE: CHEMICAL SAFETY ASSOCIATES, Inc.

THIS INFORMATION IS DRAWN FROM RECOGNIZED SOURCES BELIEVED TO BE RELIABLE. NORTHSTAR CHEMICAL INC. CHEMICAL CORPORATION MAKES NO GUARANTEES NOR ASSUMES ANY LIABILITY IN CONNECTION WITH THIS INFORMATION. THE USER SHOULD BE AWARE OF CHANGING TECHNOLOGY, RESEARCH, REGULATIONS AND ANALYTICAL PROCEDURES THAT MAY REQUIRE CHANGES HEREIN. THE ABOVE DATA IS SUPPLIED UPON THE CONDITION THAT PERSONS WILL EVALUATE THIS INFORMATION AND THEN DETERMINE ITS SUITABILITY FOR THEIR USE.

DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. 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.

FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the National Fire Protection Association (NFPA). **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; **TD₀**, **LDLo**, and **LD₀**, or **TC**, **TC₀**, **LCLo**, and **LC₀**, 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.

EXHIBIT B:
Insurance Requirements
(Citric Acid - Chemical Vendor)

Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder and the results of that work by the Contractor, their agents, representatives, employees or subcontractors.

MINIMUM SCOPE AND LIMIT OF INSURANCE

Coverage shall be at least as broad as:

1. **Commercial General Liability (CGL):** Insurance Services Office Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than **\$1,000,000** per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. **Automobile Liability (AL):** ISO Form Number CA 00 01 covering any auto (Code 1) with combined single limits of liability of no less than **\$1,000,000** per accident for bodily injury and property damage, including **MCS90** endorsement form.
3. **Workers' Compensation:** as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than **\$1,000,000** per accident for bodily injury or disease.
4. **Environmental Impairment/Contractors' Pollution Legal Liability** with limits no less than **\$1,000,000** per occurrence or claim, to include liability for Groundwater contamination, Explosion, Sudden and Accidental and Environmental cleanup, etc.

If the contractor maintains higher limits than the minimums shown above, the City of Stockton requires and shall be entitled to coverage for the higher limits maintained by the contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City of Stockton.

Other Insurance Provisions

The insurance policies are to contain, or be endorsed to contain, the following provisions:

- ***Additional Insured Status***
 The *City of Stockton, its Mayor, Council, officers, representatives, agents, employees and volunteers* are to be covered as additional insureds on the CGL and AL policy with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (**at least as broad as** ISO Form CG 20 10 11 85 or if not available, through the addition of both

CG 20 10 and CG 20 37 if a later edition is used). Policy shall cover City of Stockton, its Mayor, Council, officers, representatives, agents, employees and volunteers for all locations work is done under this contract.

- **Primary Coverage**

For any claims related to this contract, the Contractor's insurance coverage shall be endorsed as primary insurance as respects the *City of Stockton, its Mayor, Council, officers, representatives, agents, employees and volunteers*. Any insurance or self-insurance maintained by the *City of Stockton, its Mayor, Council, officers, representatives, agents, employees and volunteers* shall be excess of the Contractor's insurance and shall not contribute with it. The City of Stockton does not accept endorsements limiting the Contractor's insurance coverage to sole negligence of the Named Insured.

- **Notice of Cancellation**

Each insurance policy required above shall provide that coverage shall not be canceled, except with notice to the City of Stockton.

- **Waiver of Subrogation**

Contractor hereby grants to the City of Stockton a waiver of any right to subrogation which any insurer of said Contractor may acquire against the City of Stockton by virtue of the payment of any loss under such insurance. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not the City of Stockton has received a waiver of subrogation endorsement from the insurer.

- **Deductibles and Self-Insured Retentions**

Any deductibles or self-insured retentions must be declared to and approved by the City of Stockton Risk Services. The City of Stockton may require the Contractor to purchase coverage with a lower deductible or retention or provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention.

- **Acceptability of Insurers**

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII if admitted to do business in the State of California; If not admitted to do business in the State of California, insurance is to be placed with insurers with a current A.M. Best's rating of no less than A+:X.

- **Claims Made Policies**

If any of the required policies provide claims-made coverage:

- The Retroactive Date must be shown, and must be before the date of the contract or the beginning of contract work.

- If Claims Made policy form is used, a three (3) year discovery and reporting tail period of coverage is required after completion of work.

- ***Verification of Coverage***

Contractor shall furnish the City of Stockton with original certificates and amendatory endorsements required by this clause. All certificates and endorsements are to be received and approved by the City of Stockton Risk Services before work commences. Failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. The City of Stockton reserves the right to require complete, certified copies of all required insurance policies, including endorsements required by these specifications, at any time, for any reason or no reason.

- ***Special Risks or Circumstances***

The City of Stockton reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other circumstances.

- ***Certificate holder address***

Proper address for mailing certificates, endorsements and notices shall be:

- City of Stockton
- Attention: Risk Services
- 425 N. El Dorado Street
- Stockton, CA 95202

City of Stockton Risk Services Phone: 209-937-5037

City of Stockton Risk Services Fax: 209-937-8558

- ***Maintenance of Insurance***

If at any time during the life of the Contract or any extension, the Contractor fails to maintain the required insurance in full force and effect, all work under the Contract shall be discontinued immediately. Any failure to maintain the required insurance shall be sufficient cause for the CITY to terminate this Contract.

- ***Subcontractors***

If the Contractor should subcontract all or any portion of the work to be performed in this contract, the Contractor shall cover the sub-contractor, and/or require each sub-contractor to adhere to all subparagraphs of these Insurance Requirements section. Similarly, any cancellation, lapse, reduction or change of sub-contractor's insurance shall have the same impact as described above.