

<b>List</b>	<b>Material Safety Data Sheet (Documentation requirement)</b>
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**Section 1 – Product and Company Information**

<b>Product Name</b>	Acid Phosphatase, Kinetic	<b>Emergency Telephone No.</b>
<b>Catalog Number</b>	CD-ACP-60	CHEMTREC (800) 424-9300
<b>Product Type</b>	Clinical Chemistry Reagent	International CHEMTREC (703) 527-3887
<b>Company Name</b>	Concept Diagnostics	<b>Company Telephone No.</b>
<b>Street Address</b>	2527 S. Greenwood Pl.,	(909) 947-3462
<b>City, State, Zip Code, Country</b>	Ontario, CA 91761 USA	Fax No. (909) 947-3162

**Section 2 – Composition/Information on Ingredients**

	Chemical Names	Concentration	CAS#
Acid phosphatase reagent:	$\alpha$ -Naphthylphosphate, Sodium Citrate.	3mM, 60mM	1136-89-6, 6132-04-3
L-Tartrate Reagent:	Sodium L-Tartrate, Citric Acid, Sodium Citrate	2M, 70mM, 10mM	6106-27-7, 5949-29-1, 6132-04-3
Acetate Buffer:	Sodium Acetate, Acetic Acid	5mM	N/A
Other components either non-hazardous or at concentrations below that requiring hazardous listing.			

**Section 3 – Hazards Identification**

<b>Emergency Overview:</b> Note: The following information applies to the component materials at higher concentrations than present in the reagent. Although lower concentrations are present in the reagent, appropriate safety precautions should still be taken.
<b>Acid phosphatase reagent:</b> $\alpha$ -Naphthylphosphate: Irritant. Irritating to eyes, respiratory system and skin. Sodium Citrate: HMIS Rating, Health: 0. Flammability: 0. Reactivity: 0. NFPA Rating, Health: 0. Flammability: 0. Reactivity: 0
<b>L-Tartrate Reagent:</b> Sodium L-Tartrate : HMIS Rating, Health: 0. Flammability: 0. Reactivity: 0. NFPA Rating, Health: 0. Flammability: 0. Reactivity: 0 Citric Acid: Irritant. Irritating to eyes, respiratory system and skin. Risk of serious damage to eyes. Possible sensitizer. HMIS Rating, Health: 2. Flammability: 0. Reactivity: 0. NFPA Rating, Health: 2. Flammability: 0. Reactivity: 0 Sodium Citrate: HMIS Rating, Health: 0. Flammability: 0. Reactivity: 0. NFPA Rating, Health: 0. Flammability: 0. Reactivity: 0
<b>Acetate Buffer:</b> HMIS Rating, Health: 0. Flammability: 0. Reactivity: 0. NFPA Rating, Health: 0. Flammability: 0. Reactivity: 0 liver.
<b>HMIS Rating</b> Health: $\alpha$ -Naphthylphosphate = 0, Sodium Citrate = 0, Sodium L-Tartrate = 0, Citric Acid = 2 Flammability: $\alpha$ -Naphthylphosphate = 0, Sodium Citrate = 0, Sodium L-Tartrate = 0, Citric Acid = 0 Reactivity: $\alpha$ -Naphthylphosphate = 0, Sodium Citrate = 0, Sodium L-Tartrate = 0, Citric Acid = 0
<b>NFPA Rating</b> Health: $\alpha$ -Naphthylphosphate = 0, Sodium Citrate = 0, Sodium L-Tartrate = 0, Citric Acid = 2 Flammability: $\alpha$ -Naphthylphosphate = 0, Sodium Citrate = 0, Sodium L-Tartrate = 0, Citric Acid = 0 Reactivity: $\alpha$ -Naphthylphosphate = 0, Sodium Citrate = 0, Sodium L-Tartrate = 0, Citric Acid = 0 For additional information on toxicity, please refer to section 11.

**Section 4 – First Aid Measures**

<b>Oral Exposure</b> If swallowed, wash out mouth with water provided person is conscious. Call a physician.
<b>Inhalation Exposure</b> If inhaled, remove to fresh air. If not breathing give artificial respiration but NOT by mouth-to-mouth resuscitation. If breathing is difficult, give oxygen. Call a physician.
<b>Dermal Exposure</b> In case of skin contact, immediately wash skin with soap and copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician.
<b>Eye Exposure</b> In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

**Section 5- Fire and Explosive Hazard Data**

<b>Flash Point</b> Citric Acid: 345°F (173.9°C) Method: Closed cup	<b>Explosion Limits</b> N/A	<b>Autoignition Temp</b> N/A
<b>Extinguishing Media</b> Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.		
<b>Explosion Data</b> Sodium Citrate, Citric Acid: Dust Potential: This material, like most materials in powder form, is capable of creating a dust explosion.		
<b>Firefighting Measures</b> Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions.		
<b>Exposure Hazard(s):</b> $\alpha$ -Naphthylphosphate: Material: Irritant.		

<b>List No:</b>	<b>L42-M02</b>	<b>Revision :</b>	<b>C</b>	<b>Prepared by:</b>	<b>RLD</b>	<b>Approved by:</b>	<b>JCFA</b>	<b>Issue date:</b>	<b>08/30/07</b>
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**Section 6 – Accidental Release Measures**

<b>Procedure to be Followed in Case of Leak or Spill</b> N/A	<b>Procedures of Personal Precaution</b> Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves. Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.
<b>Methods for Cleaning Up and Disposal</b> Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete. Acetate Buffer: Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.	

**Section 7 – Handling and Storage**

<b>Handling</b> All Material: Avoid contact with eyes, skin and clothing Avoid inhalation or ingestion. Avoid prolonged or repeated exposure.	<b>Storage</b> All Material: Keep tightly closed. Store in a cool dry place. Store at 2-8°C.
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**Section 8 – Exposure Controls / PPE**

<b>Engineering Controls</b> Safety shower and eyewash. Good general ventilation.	<b>Personal Protective Equipment</b> Respiratory Protection: None required where adequate ventilation is satisfactory. Ventilation: General room ventilation is satisfactory. Protective Gloves: Recommended Eye Protection: Safety glasses or goggles with side shields recommended. Hand: Compatible chemical-resistant gloves.
<b>General Hygiene Measures</b> Wash thoroughly after handling. Wash contaminated clothing before reuse.	Other Protective Equipment: Safety shower and eye wash should be available. Use a safety pipette device. Lab coat recommended.

**Section 9 - Physical Data**

<b>Flash Point</b> Citric Acid: 345 °F 173.9 °C Method: closed cup	<b>Melting Point</b> α-Naphthylphosphate: 157-159°C Sodium Citrate: 300°C	<b>Specific Gravity (g/cm<sup>3</sup>)</b> Sodium L-Tartrate: 1.82 g/cm <sup>3</sup> 20 °C Acetate Buffer: 1 g/cm <sup>3</sup>
<b>Boiling Point</b> Acetate Buffer: > 100 °C 1,013 mmHg	<b>Vapor Density</b> Citric Acid: 1.54 g/l 20 °C	<b>Bulk Density</b> Sodium L-Tartrate: 720 kg/l Citric Acid: 900 kg/l 20 °C
<b>Molecular Weight</b> α-Naphthylphosphate: 224.15 AMU Sodium Citrate: 294.1 AMU Sodium L-Tartrate: 230.08 AMU Citric Acid: 210.14 AMU	<b>pH</b> Sodium Citrate: 7.5- 9 Sodium L-Tartrate: 7- 9 20 °C Concentration: 50 Citric Acid: 1.8 20 °C Concentration: 50 g/l Acetate Buffer: 4.6 20 °C	<b>Percent Volatile</b> N/A
<b>Freezing Point</b> N/A	<b>Solubility in Water</b> Acid phosphatase reagent: Soluble L-Tartrate Reagent: Soluble Acetate Buffer: Miscible	<b>Appearance</b> Acid phosphatase reagent: White, Powder L-Tartrate Reagent: White, Powder Acetate Buffer: Liquid

**Section 10 – Stability and Reactivity**

<b>Stability</b> Stable	<b>Conditions to Avoid</b> Moisture	<b>Materials to Avoid</b> Strong oxidizing agents, strong bases. Citric Acid: Oxidizing agents, Bases, Reducing agents, Nitrates. Acetate Buffer: Strong oxidizing agents.
<b>Hazardous Decomposition Products</b> α-Naphthylphosphate → Carbon monoxide, Carbon dioxide, Thermal decomposition may produce toxic fumes of phosphorus oxides and/or phosphine. Sodium Citrate → carbon monoxide, carbon dioxide. Sodium L-Tartrate → carbon monoxide, carbon dioxide. Citric Acid → carbon monoxide, carbon dioxide. Acetate Buffer → carbon monoxide, carbon dioxide.		<b>Hazardous Polymerization</b> Will not occur

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**Section 11 – Toxicological information**

<p><b>Route of exposure</b>  <b>α-Naphthylphosphate:</b>                  Inhalation: Material is irritating to mucous membranes and upper respiratory tract.                  Multiple Routes: May be harmful by inhalation, ingestion, or skin absorption. Causes eye and skin irritation.</p>	<p><b>Signs and Symptoms of Exposure</b>  <b>α-Naphthylphosphate:</b>                  To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.</p>
<p><b>Route of exposure</b>  <b>Sodium Citrate:</b>                  Skin Contact: May cause skin irritation.                  Skin Absorption: May be harmful if absorbed through the skin.                  Eye Contact: May cause eye irritation.                  Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.                  Ingestion: May be harmful if swallowed.</p>	<p><b>Signs and Symptoms of Exposure</b>  <b>Sodium Citrate:</b>                  To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated</p>
<p><b>Route of exposure</b>  <b>Sodium L-Tartrate:</b>                  Skin Contact: May cause skin irritation.                  Skin Absorption: May be harmful if absorbed through the skin.                  Eye Contact: May cause eye irritation.                  Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.                  Ingestion: May be harmful if swallowed.</p>	<p><b>Signs and Symptoms of Exposure</b>  <b>Sodium L-Tartrate:</b>                  To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.</p>
<p><b>Route of exposure</b>  <b>Citric Acid :</b>                  Skin Contact: Causes skin irritation.                  Skin Absorption: May be harmful if absorbed through the skin.                  Eye Contact: Causes severe eye irritation.                  Inhalation: May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.                  Ingestion: May be harmful if swallowed.                  Sensitization: Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.</p>	<p><b>Signs and Symptoms of Exposure</b>  <b>Citric Acid :</b>                  Exposure can cause: Vomiting. Diarrhea. Damage to tooth enamel. Dermatitis.</p>
<p><b>Route of exposure</b>  <b>Acetate Buffer :</b>                  Skin Contact: May cause skin irritation.                  Skin Absorption: May be harmful if absorbed through the skin.                  Eye Contact: May cause eye irritation.                  Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.                  Ingestion: May be harmful if swallowed.</p>	<p><b>Signs and Symptoms of Exposure</b>  <b>Acetate Buffer :</b>                  To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated</p>

<b>Toxicity Data: Citric Acid</b>			
<u>Species:</u>	<u>Dose:</u>	<u>Route of Application:</u>	<u>Result:</u>
Rat	315 mg/kg	Intraperitoneal	LD50
<b>IrritationData: Citric Acid</b>			
<u>Species:</u>	<u>Dose:</u>	<u>Route of Application:</u>	<u>Result:</u>
Rabbit	5 mg	Eyes	Rinsed

**Section 12 – Ecological Information**

No data available.
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**Section 13 – Disposal Considerations**

<p><b>Appropriate Method of Disposal of Substance or Preparation</b>                  Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.</p>
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**Section 14 – Transport Information**

<p><b>DOT</b>                  Proper Shipping Name: None                  Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.</p>	<p><b>IATA</b>                  Non-Hazardous for Air Transport: Non-hazardous for air transport.</p>
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**Section 15 – Regulatory Information**

<p><b>α-Naphthylphosphate:</b>  <b>European Regulatory Information</b>                  Symbol of Danger: Xi                  Indication of Danger: Irritant.                  R: 36/37/38                  Risk Statements: Irritating to eyes, respiratory system and skin.                  S: 26 36                  Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.</p>	<p><b>α-Naphthylphosphate:</b>  <b>US Classification and Label Text</b>                  Indication of Danger: Irritant.                  Risk Statements: Irritating to eyes, respiratory system and skin.                  Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves and eye/face protection.</p>
<p><b>Canadian Regulatory Information</b>                  WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.                  DSL: No                  NDSL: No</p>	<p><b>US Regulatory Information</b>                  SARA Listed: No</p>
<p><b>Sodium Citrate:</b>  <b>Canadian Regulatory Information</b>                  WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.                  DSL: No                  NDSL: No</p>	<p><b>Sodium Citrate:</b>  <b>US Regulatory Information</b>                  SARA Listed: No</p>
<p><b>Sodium L-Tartrate:</b>  <b>Canadian Regulatory Information</b>                  WHMIS Classification                  This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.                  DSL: No                  NDSL: No</p>	<p><b>Sodium L-Tartrate:</b>  <b>US Regulatory Information</b>                  SARA Listed: No</p>
<p><b>Citric Acid :</b>  <b>EU Additional Classification.</b>                  Symbol of Danger: Xi                  Indication of Danger: Irritant.                  R: 37/38 41                  Risk Statements: Irritating to respiratory system and skin. Risk of serious damage to eyes.                  S: 26 36/37/39                  Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection.</p>	<p><b>Citric Acid :</b>  <b>US Classification and Label Text</b>                  Indication of Danger: Irritant.                  Risk Statements: Irritating to respiratory system and skin. Risk of serious damage to eyes.                  Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection.</p> <p><b>US Statements:</b> Possible sensitizer</p>
<p><b>Canadian Regulatory Information</b>                  WHMIS Classification                  This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.                  DSL: No                  NDSL: No</p>	<p><b>US Regulatory Information</b>                  SARA Listed: No</p>
<p><b>Acetate Buffer :</b>  <b>Canada Regulatory Information</b>                  WHMIS Classification This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.                  DSL: No                  NDSL: No</p>	<p><b>Acetate Buffer :</b>  <b>US Regulatory Information</b>                  SARA Listed: No</p>

**Section 16 – Other Information**

<p>This Product is labeled in accordance with CFR21 (Food and Drugs), Section 809.10.</p>
<p>The information contained herein has been compiled from data presented in various technical sources believed to be accurate. We make no warranties, express or implied, and assume no liability in connection with the use of this information. It is the user’s responsibility to determine the suitability of this information and to assure the adoption of necessary safety precautions.</p>

N/A - Not Applicable or Not Available

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