

List **Material Safety Data Sheet (Documentation Requirements)**

Section 1 – Product and Company Information

Product Name	ALT (SGPT), Kinetic	Emergency Telephone No.
Catalog Number	CD-ALT-240, CD-ALT-400	CHEMTREC (800) 424-9300
Product Type	Clinical Chemistry Reagent	International CHEMTREC (703) 527-3887
Company Name	Concept Diagnostics	Company Telephone No.
Street Address	2527 S. Greenwood Pl.,	(909) 947-3462
City, State, Zip Code, Country	Ontario CA 91761 USA	Fax No. (909) 947-3162

Section 2 – Composition/Information on Ingredients

	Chemical Names	Concentration	CAS#
ALT (SGPT), Reagent:	α-Ketoglutarate	13 mM	328-50-7
	L-Alanine	400 mM	56-41-7
	NADH	0.2 mM	53-84-9
	LDH	800 U/L	9001-60-9

Other components either non-hazardous or at concentrations below that requiring hazardous listing.

Section 3 – Hazards Identification

Emergency Overview:			
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.			
Routes of Entry: Inhalation, ingestion, eye and skin contact.			
Acute Skin Contact: Wash contaminated area with soap and large amounts of water.			
Chronic Skin Contact: Wash contaminated area with soap and water.			
Acute Eye Contact: Flush eye with copious amounts of water for at least 15 minutes.			
Chronic Eye Contact: Flush eye with copious amounts of water.			
Acute Ingestion: Wash out mouth with large amounts of water. Consult physician if necessary.			
Chronic Ingestion: Wash out mouth with large amounts of water.			
Carcinogenicity: Not a known carcinogen			
HMIS Rating	Health	Flammability	Reactivity
α-Ketoglutarate	2	0	0
L-Alanine	0	0	0
NADH	2	0	0
LDH	2	0	0
NFPA Rating	Health	Flammability	Reactivity
α-Ketoglutarate	2	0	0
L-Alanine	0	0	0
NADH	2	0	0
LDH	2	0	0
For additional information on toxicity, please refer to section 11.			

Section 4 – First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.
Inhalation Exposure
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.
Dermal Exposure
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.
Eye Exposure
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

Flash Point	Explosion Limits	Autoignition Temp
N/A	N/A	N/A
Extinguishing Media		
Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.		
Firefighting Measures		
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.		
Unusual Fire & Explosion Hazards: May emit toxic fumes under fire conditions.		
Specific Hazard(s): Emits toxic fumes under fire conditions		

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Section 6 – Accidental Release Measures

<p>Procedure to be Followed in Case of Leak or Spill Ventilate the area. Absorb on inert material. Place material and contaminated disposables into a suitable container, seal, label and hold for disposal.</p>	<p>Procedures of Personal Precaution Wear chemical safety goggles, rubber boots and heavy rubber gloves. Exercise appropriate precautions to minimize direct contact with skin or eyes.</p>
<p>Methods for Cleaning Up and Disposal 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.</p>	

Section 7 – Handling and Storage

<p>Handling Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Avoid inhalation or ingestion. Do not pipette by mouth. Refer to Section 8</p>	<p>Storage Store according to package directions. Store at 2-8°C. Keep tightly closed.</p>
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Section 8 – Exposure Controls / PPE

<p>Engineering Controls Safety shower and eye bath. Mechanical exhaust required.</p>	<p>Personal Protective Equipment Respiratory: α-Ketoglutarate, LDH: Government approved respirator. L-Alanine, NADH: Wear dust mask. Hand: Compatible chemical-resistant gloves. Eye: Chemical safety goggles.</p>
<p>General Hygiene Measures Wash thoroughly after handling.</p>	

Section 9 - Physical Data

<p>Appearance α-Ketoglutarate: Solid, Fine crystals, White L-Alanine, NADH, LDH: Solid</p>	<p>pH L-Alanine : 5.5-7 α-Ketoglutarate, NADH, LDH: N/A</p>	<p>MP/ MP Range α-Ketoglutarate: 114 °C L-Alanine: 314.5 °C NADH, LDH: N/A</p>
<p>Solubility α-Ketoglutarate: Solvent: 0.1 g/ml H₂O Clear L-Alanine: 1 M in H₂O, 20°C NADH, LDH: N/A</p>	<p>Molecular Weight α-Ketoglutarate: 146.1 AMU L-Alanine: 89.09 AMU NADH: 663.4 AMU</p>	<p>Optical Rotation L-Alanine: Degree of Rotation: 50 g/l Solvent: 5 M HCl +17.5 - +14.0 (+/-0.5) α-Ketoglutarate, NADH, LDH: N/A</p>

Section 10 – Stability and Reactivity

<p>Stability α-Ketoglutarate, L-Alanine, NADH, LDH: Stable, under normal handling and storage conditions.</p>	<p>Materials to Avoid α-Ketoglutarate: Bases, Oxidizing agents, Reducing agents. L-Alanine, NADH, LDH: Strong oxidizing agents.</p>
<p>Hazardous Decomposition Products α-Ketoglutarate: Carbon monoxide, Carbon dioxide. L-Alanine: Carbon monoxide, Carbon dioxide, Nitrogen oxides. NADH: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Phosphorous oxides. LDH: Nature of decomposition products not known.</p>	<p>Hazardous Polymerization Will not occur</p>

Section 11 – Toxicological information

<p>Route of Exposure Skin Contact: Causes skin irritation. Skin Absorption: May be harmful if absorbed through the skin. Eye Contact: Causes eye irritation. Inhalation: Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled. Ingestion: May be harmful if swallowed.</p> <p>Signs and Symptoms of exposure To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated</p>
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Section 12 – Ecological Information

No data available.

Section 13 – Disposal Considerations

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

<p>α-Ketoglutarate EU Additional Classification Symbol of Danger: Xi Indication of Danger: Irritant. Risk Statements: Risk of serious damage to eyes. Irritating to respiratory system and skin. Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye/face protection. US Classification and Label Text Indication of Danger: Irritant. Risk Statements: Risk of serious damage to eyes. Irritating to respiratory system and skin. Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing. United States Regulatory Information SARA Listed: No Canada Regulatory Information 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: Yes, NDSL: No</p>
<p>L-Alanine United States Regulatory Information SARA Listed: No TSCA inventory item: Yes Canada Regulatory Information 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: Yes, NDSL: No</p>
<p>NADH US Classification and Label Text Indication of Danger: Irritant. Risk Statements: Risk of serious damage to eyes. Irritating to respiratory system and skin. Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing. US Statements: Target organ(s): Liver. Kidneys. United States Regulatory Information SARA Listed: yes NOTES: This product is or contains a component that is subject to SARA313 reporting requirements. TSCA inventory item: Yes Canada Regulatory Information 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: Yes, NDSL: No</p>
<p>LDH EU Additional Classification Safety Statements: Do not breathe dust. Avoid contact with skin and eyes. US Classification and Label Text US Statements: Caution: Avoid contact and inhalation. United States Regulatory Information SARA LISTED: No Canada Regulatory Information 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>

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>