



# Teco Diagnostics

Clinical Reagent Specialists

Document	QL801-149
Revision	A
Prepared by	Brian Anderson
Approved by	Owen Bry
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[MSDS]

## ALT (SGPT) Liquid

1268 N. Lakeview Ave. Anaheim, CA 92807 Phone: (714) 463-1111 Fax: (714) 463-1169 www.tecodiag.com

### Section 1 – Product and Company Information

<b>Product Name</b>	ALT (SGPT), Liquid	<b>Emergency Telephone No.</b>
<b>Catalog Number</b>	A524-150	CHEMTREC (800) 424-9300
<b>Product Type</b>	Clinical Chemistry Reagent	International CHEMTREC (703) 527-3887
<b>Company Name</b>	Teco Diagnostics	<b>Company Telephone No.</b>
<b>Street Address</b>	1268 N. Lakeview Avenue	(800) 222-9880 or (714) 693-7788 Monday - Friday 8:00-4:30 PST
<b>City, State, Zip Code, Country</b>	Anaheim, CA 92807 USA	Fax No. (714) 693-3838

### Section 2 – Composition/Information on Ingredients

	Chemical Names	Concentration	CAS#
ALT (SGPT) Liquid Reagents	$\alpha$ -Ketoglutarate(2-Oxoglutarate)	15 mmol/L	328-50-7
	L-Alanine	500 mmol/L	56-41-7
	NADH	0.18 mmol/L	53-84-9
	LDH	>1200 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 contact, skin contact and skin absorption.

Carcinogenicity: Not a known carcinogen

HMIS Rating	Health	Flammability	Reactivity
$\alpha$ -Ketoglutarate	2	0	0
L-Alanine	0	0	0
NADH	2	0	0
LDH	2	0	0

  

NFPA Rating	Health	Flammability	Reactivity
$\alpha$ -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

#### Ingestion Exposure

If swallowed, wash out mouth with large amounts water provided person is conscious. Call a physician if necessary.

#### 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.

#### Skin Exposure

In case of skin contact, immediately wash skin with soap and plenty of water for at least 15 minutes. Remove and wash contaminated clothing before reuse. Call a physician if necessary

#### Eye Exposure

In case of contact with eyes, flush with plenty of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician if necessary.

### Section 5- Fire and Explosive Hazard Data

<b>Flash Point</b> N/A	<b>Explosion Limits</b> N/A	<b>Autoignition Temp</b> N/A
<b>Extinguishing Media</b> Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.		
<b>Firefighting Measures</b> 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><b>Procedure to be Followed in Case of Leak or Spill</b> Ventilate the area. Absorb on inert material. Place material and contaminated disposables into a suitable container, seal, label and hold for disposal.</p>	<p><b>Procedures of Personal Precaution</b> Wear chemical safety goggles, rubber boots and heavy rubber gloves. Exercise appropriate precautions to minimize direct contact with skin or eyes.</p>
<p><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.</p>	

**Section 7 – Handling and Storage**

<p><b>Handling</b> 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><b>Storage</b> Store according to package directions. Store at 2-8°C. Keep tightly closed.</p>
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**Section 8 – Exposure Controls / PPE**

<p><b>Engineering Controls</b> Good general ventilation. Safety shower and eye wash.</p>	<p><b>Personal Protective Equipment</b> Wear chemical safety goggles, rubber boots and heavy rubber gloves. Exercise appropriate precautions to minimize direct contact with skin or eyes.</p>
<p><b>General Hygiene Measures</b> Wash thoroughly after handling.</p>	

**Section 9 - Physical Data**

<p><b>Appearance</b> Clear colorless liquids</p>	<p><b>pH</b> L-Alanine : 5.5-7 α-Ketoglutarate, NADH, LDH: N/A</p>	<p><b>MP/ MP Range</b> α-Ketoglutarate: 114 °C L-Alanine: 314.5 °C NADH, LDH: N/A</p>
<p><b>Solubility</b> α-Ketoglutarate: Solvent: 0.1 g/ml H2O Clear L-Alanine: 1 M in H2O, 20°C NADH, LDH: N/A</p>	<p><b>Molecular Weight</b> α-Ketoglutarate: 146.1 AMU L-Alanine: 89.09 AMU NADH: 663.4 AMU</p>	<p><b>Optical Rotation</b> 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><b>Stability</b> Stable, under normal handling and storage conditions.</p>	<p><b>Materials to Avoid</b> Bases, Oxidizing agents, Reducing agents.</p>
<p><b>Hazardous Decomposition Products</b> 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><b>Hazardous Polymerization</b> Will not occur</p>

**Section 11 – Toxicological information**

<p><b>Route of Exposure</b> 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><b>Signs and Symptoms of exposure</b> 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.
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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-Ketoglutarate</b> <b>EU Additional Classification</b> 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. <b>US Classification and Label Text</b> 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. <b>United States Regulatory Information</b> SARA Listed: No <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: Yes, NDSL: No</p>
<p><b>L-Alanine</b> <b>United States Regulatory Information</b> SARA Listed: No TSCA inventory item: Yes <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: Yes, NDSL: No</p>
<p><b>NADH</b> <b>US Classification and Label Text</b> 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. <b>United States Regulatory Information</b> SARA Listed: yes NOTES: This product is or contains a component that is subject to SARA313 reporting requirements. TSCA inventory item: Yes <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: Yes, NDSL: No</p>
<p><b>LDH</b> <b>EU Additional Classification</b> Safety Statements: Do not breathe dust. Avoid contact with skin and eyes. <b>US Classification and Label Text</b> US Statements: Caution: Avoid contact and inhalation. <b>United States Regulatory Information</b> SARA LISTED: No <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>

**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>