



**DIAGNOSTIC AUTOMATION, INC.**

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**MATERIAL SAFETY DATA SHEET**

**Lyme Disease IgG**

IDENTIFICATION OF THE PREPARATION AND COMPANY NAME.

**Supplier:** Diagnostic Automation Inc.  
23961 Craftsman Rd. Suite D/E/F,  
Calabasas, CA 91302 USA

**Emergency Telephone number:** Please contact the local hospitals.

**Product Name:** Lyme Disease IgG ELISA Test System  
**Catalog No:** 1428-2Z  
**Synonyms:** N/A  
**Intended Use:** Laboratory Use

HAZARD IDENTIFICATION

**Emergency OVERVIEW & HAZARDS PRESENT TO MAN AND THE ENVIRONMENT**

Poison. Danger. Corrosive. Liquid and mist cause severe burns to all body tissue. May be fatal if swallowed or inhaled. Inhalation may cause lung damage

REGULATORY STATUS

	This material is classified as non-hazardous under OSHA regulations.
	While this material is not classified as hazardous under OSHA regulations, this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of the product.
<b>X</b>	This material is classified as hazardous under OSHA regulations.

## PRIMARY ROOTS OF EXPOSURE:

Inhalation, Skin, Ingestion

## POTENTIAL HEALTH EFFECTS:

### **Eyes:**

Vapors are irritating and may cause damage to the eyes. Contact may cause severe burns and permanent eye damage

### **Skin:**

Can cause redness, pain, and severe skin burns. Concentrated solutions cause deep ulcers and discolor skin.

### **Inhalation:**

Inhalation of vapors can cause coughing, choking, inflammation of the nose, throat, and upper respiratory tract, and in severe cases, pulmonary edema, circulatory failure, and death.

### **Ingestion:**

Swallowing hydrochloric acid can cause immediate pain and burns of the mouth, throat esophagus and gastrointestinal tract. May cause nausea, vomiting, and diarrhea. Swallowing may be fatal.

## MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Persons with pre-existing skin disorders or eye disease may be more susceptible to the effects of this substance.

## CHRONIC HEALTH EFFECTS:

### **Eyes:**

Long-term exposures seldom occur due to the corrosive properties of the acid.

### **Skin:**

Repeated exposure to low concentrations of acid solutions, mist or vapor cause redness, swelling and pain (dermatitis).

### **Inhalation:**

Repeated exposure to low concentrations of acid mist or vapor may cause bleeding of nose and gums. Chronic bronchitis and stomach pain (gastritis) has also been reported.

### **Ingestion:**

Repeated exposures to low concentrations of HCl mist can cause brownish discoloration and damage to tooth enamel. Dental erosion becomes more severe has also been reported.

## COMPOSITION INFORMATION

<b>Chemical Name:</b>	Proprietary Mixture
<b>Percent:</b>	Proprietary Mixture
<b>CAS Number:</b>	56-81-5 (Glycerol) 7647-01-0 (Hydrochloric Acid (HCl)) 26628-22-8 (Sodium Azide) 7647-14-5 (Sodium Chloride) 7757-82-6 (Sodium Sulfate (Anhydrous)) 9005-64-5 (Tween 20)
<b>Risk Phrases:</b> (refer to Regulatory Information)	R22, R23, R25, R35, R36/37/38
<b>Safety Phrases</b> (refer to Regulatory Information)	S1, S2, S9, S24, S25, S26, S28, S36, S37, S39, S45, S46

<b>Symbols:</b>	(T) Toxic, (C) Corrosive, (Xi) Irritant
<b>EINECS / ELINCS Number:</b>	200-289-5 (Glycerol) 231-595-7 (Hydrogen Chloride) 247-285-1 (Sodium Azide) 231-648-7 (Sodium Chloride) 231-820-9 (Sodium Sulfate)

## FIRST AID MEASURES

### FIRST AID MEASURES:

#### Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Seek medical attention immediately.

#### Skin:

In case of contact, immediately flush skin with plenty of water for at least 15 minute while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Seek medical attention immediately

#### Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention immediately.

#### Ingestion:

DO NOT INDUCE VOMITING! Give large quantities of water or milk if available. Never give anything by mouth to an unconscious person. Seek medical attention immediately.

#### Instructions for Physician:

No additional instructions.

## FIRE FIGHTING MEASURES

NFWPA Classification			
Health	Fire	Reactivity	Other
3	1	2	4 (Contact)
<b>FLAMMABILITY PROPERTIES</b>			
<b>Flash Point:</b>	160°C (Glycerol)	<b>Method:</b>	Closed Cup
<b>Flammability Limits:</b> (in air % by volume)	<b>LEL:</b>	N/A	<b>UEL:</b> N/A
<b>Autoignition Temperature:</b> 370°C (Glycerol)			
<b>Hazardous Combustion Products:</b> In fires fueled by other materials, hydrogen chloride may be released.			
<b>Extinguishing Media:</b> If involved in a fire, use water spray. Neutralize with soda ash or slaked lime.			
<b>Prohibited Extinguishing Media:</b> None identified.			
<b>Firefighting Instructions:</b> In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Structural firefighter's protective clothing is ineffective for fires involving hydrochloric acid.			
<b>Unusual Fire and Explosion Hazards:</b> Extreme heat or contact with metals can release flammable hydrogen gas.			

## ACCIDENTAL RELEASE MEASURES

### **Personnel Precautions:**

Wear appropriate personal protective equipment as specified in Exposure Controls/Personal Protection

### **Environmental Precautions:**

Do not flush to sewer. US Regulations (CERCLA) requires reporting spills and releases to soil, water and air in excess of reportable quantities.

### **Cleanup Methods:**

Ventilate area of leak or spill. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Neutralize with alkaline material (soda ash, lime), then absorb with an inert material (e.g., vermiculite, dry sand, and earth), and place in a chemical waste container. Do not use combustible material such as sawdust.

## HANDLING AND STORAGE

### **Handlong:**

Do not wash out container and use it for other purposes. When diluting, the acid should always be added slowly to water and in small amounts. Never use hot water and never add water to the acid. Water added to acid can cause uncontrolled boiling and splashing. When opening metal containers, use non-sparking tools due to the possible presence of hydrogen. Containers containing this material may be hazardous when empty since they retain product residues.

### **Storage:**

Store in a cool, dry, ventilated storage area with acid resistant floors and good drainage. Protect from physical damage. Keep out of direct sunlight and away from heat, water, and incompatible materials

### **Specific Uses:**

Product is intended for laboratory use.

## EXPOSURE CONTROLS/PERSONAL PROTECTION

### **EXPOSURE CONTROLS:**

#### **Exposure Limit Values:**

	<b><u>OSHA PEL:</u></b>	<b><u>ACGIH TLV:</u></b>
Glycerol	15mg/m <sup>3</sup> (Total Dust: Glycerin Mist) 5mg/m <sup>3</sup> (Respirable Fraction: Glycerin Mist)	10 mg/m <sup>3</sup> (Vapor)
Hydrochloric Acid (HCl)	7mg/m <sup>3</sup> (Ceiling)	7.5mg/m <sup>3</sup> (Ceiling)
Sodium Azide	0.3mg/m <sup>3</sup>	0.29 mg/m <sup>3</sup>

### **Engineering Controls:**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred due to its ability to control the emissions of the contaminant at its source, preventing dispersion of vapors into the general work area.

### **PERSONAL PROTECTIVE EQUIPMENT:**

#### **Respiratory Protection:**

NIOSH Approved Personal Respirators should be utilized. If the exposure limit is exceeded, a full face piece respirator with an acid gas cartridge may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator.

#### **Hand Protection:**

Rubber or neoprene gloves should be worn when handling this material

#### **Eye/Face Protection:**

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

**Skin Protection:**

Impervious boots, apron, or coveralls should be worn as needed in areas of unusual exposure to prevent skin contact.

**General Hygiene Considerations:**

No information available.

**Other Protective Equipment:**

No additional PPE required.

## PHYSICAL & CHEMICAL PROPERTIES

<b>PRODUCT:</b>	<b>Lyme Disease IgG ELISA TEST KIT</b>
<b><u>General Information:</u></b>	
Appearance	Clear/Semi-Clear Liquid
Odor	Pungent odor of hydrogen chloride
<b><u>Important health, Safety, and Environmental Information:</u></b>	
Boiling Point	53°C (127°F) (HCl)
Melting Point	-74°C (-101°F) (HCl)
Flash Point	N/A
Explosive Properties	N/A
Oxidizing Properties	No information available
Specific Gravity (H <sub>2</sub> O = 1)	1.16 (HCl)
pH	1 (HCl)
Water Solubility	Soluble
Partition Coefficient (n-octanol/water)	No information available.
Viscosity	No information available.
Vapor Pressure (mm Hg)	25 mm of Hg @ 25°C (77°F) (HCl)
Vapor Density (Air = 1)	No information available.
Evaporation Rate	No information available.
% Volatile (By Volume @ 68°F)	100 (HCl)

## STABILITY & REACTIVITY

**Stability:**

Stable under normal conditions of use and storage. Containers may burst when heated.

**Conditions to Avoid:**

Avoid heat and direct sunlight.

**Materials to Avoid:**

A strong mineral acid, concentrated hydrochloric acid is incompatible with many substances and highly reactive with strong bases, metals, metal oxides, hydroxides, amines, carbonates and other alkaline materials. Incompatible with materials such as cyanides, sulfides, sulfites, and formaldehyde.

**Hazardous Decomposition Products:**

When heated to decomposition emits toxic hydrogen chloride fumes and will react with water or steam to produce heat and toxic and corrosive fumes. Thermal oxidative decomposition produces toxic chlorine fumes and explosive hydrogen gas.

**Hazardous Polymerization:**

Will not occur.

## TOXICOLOGICAL INFORMATION

Type of Test	Route of Exposure	Effects	Species Observed	Dose Data
<b>Albumin Bovine Serum:</b>				
TD <sub>Lo</sub>	Intraperitoneal	Immunological including allergic - increase in humoral immune response	Rodent - Mouse	0.2 pph
<b>Glycerol:</b>				
LD <sub>50</sub>	Oral	Details of toxic effects not reported other than lethal dose value.	Rodent – Rat	12600 mg/kg
<b>HCl:</b>				
LC <sub>50</sub>	Inhalation	Lungs, Thorax, or Respiration – acute pulmonary edema.	Rodent – Rat	7004 mg/m <sup>3</sup> /30M
<b>Sodium Azide:</b>				
LD <sub>50</sub>	Oral	Details of toxic effects not reported other than lethal dose value.	Rodent – Rat	27 mg/kg
<b>Sodium Chloride:</b>				
LD <sub>50</sub>	Oral	Details of toxic effects not reported other than lethal dose value.	Rodent – Rat	3000 mg/kg
<b>Sodium Sulfate:</b>				
LD <sub>50</sub>	Oral	Details of toxic effects not reported other than lethal dose value.	Rodent – Mouse	5989 mg/kg
<b>Tween 20 (Polyoxyethylene (20) sorbitan monolaurate):</b>				
LD <sub>50</sub>	Oral	Details of toxic effects not reported other than lethal dose value.	Rodent – Rat	36700 UL/KG

## ECOLOGICAL INFORMATION

### **Ecotoxicity:**

This material is expected to be toxic to aquatic life.

### **Mobility:**

When released into the soil, this material may leach into groundwater.

### **Persistence and Degradability:**

When released into the soil, this material is not expected to biodegrade.

### **Bioaccumulative Potential:**

No information available.

## DISPOSAL CONSIDERATION

Disposal should be in accordance with Local, State, and Federal regulations.

## TRANSPORT INFORMATION

<b><u>DOT CLASSIFICATION:</u></b>	
UN Number:	N/A
Class:	ORM-D
Proper Shipping Name:	Consumer Commodity
Packing Group:	N/A
Marine Pollutant:	N/A
Other Information:	N/A
<b><u>IATA CLASSIFICATION:</u></b>	
UN Number:	ID8000
Class:	9
Proper Shipping Name:	Consumer Commodity
Packing Group:	N/A
Marine Pollutant:	N/A
Other Information:	N/A
<b><u>IMDG CLASSIFICATION:</u></b>	
UN Number:	UN 1789
Class:	8
Proper Shipping Name:	Hydrochloric Acid, solution
Packing Group:	II
Marine Pollutant:	N/A
Other Information:	Limited Quantity

## REGULATORY INFORMATION

<b><u>U.S REGULATIONS</u></b>	
<b>ACGIH</b>	Listed: (HCl) (TLV: 7.5 mg/m <sup>3</sup> ) (Ceiling) (Sodium Azide) (TLV: 0.29 mg/m <sup>3</sup> ) (Ceiling) (Glycerol) (TLV:10 mg/m <sup>3</sup> ) (Vapor)
<b>CAA Section 112</b>	Listed: (HCl)
<b>CERCLA</b>	Listed: (HCl: (RQ=5000 lbs.) (Sodium Azide; RQ – 1000 lbs.)
<b>IARC</b>	Not Listed
<b>NTP</b>	Not Listed
<b>OSHA</b>	Listed: (HCl) (PEL: 7 mg/m <sup>3</sup> ) (Ceiling) (Sodium Azide) (PEL: 0.3 mg/m <sup>3</sup> ) (Ceiling) (Total Dust: Glycerin Mist) (PEL: 15 mg/m <sup>3</sup> ) (Respirable Fraction: Glycerin Mist) (5mg/m <sup>3</sup> )
<b>SARA Title III</b>	Listed (Hydrogen Chloride: gas only) (Sodium Azide)
<b>TSCA</b>	Listed (HCl) (Sodium Azide) (Sodium Chloride)
<b><u>STATE REGULATIONS</u></b>	
<b>MA Substance List</b>	Listed (HCl) (Glycerin Mist) (sodium Azide)
<b>NJ RTK Hazardous Substance List</b>	Listed (HCl) (Sodium Azide)
<b>PA Hazardous Substance List</b>	Listed (1,2,3 Propanetriol) (Sodium Azide)
<b>Canadian WHMIS</b>	Listed (HCl) (Sodium Azide)

**EUROPEAN UNION**

**Risk Phrases:**

R22: Harmful if swallowed  
R23: Toxic by inhalation.  
R25: Toxic if swallowed.  
R35: Causes severe burns  
R36/37/38; Irritating to eyes, respiratory system and skin.

**Safety Phrases:**

S1: Keep locked up.  
S2: Keep out of the reach of children  
S9: Keep container in a well-ventilated place.  
S24: Avoid contact with skin  
S25: Avoid contact with eyes  
S26: In case of contact with eyes rinse immediately plenty of water and seek medical advice.  
S28: After contact with skin, wash immediately with plenty of water.  
S36: Wear suitable protective clothing.  
S37: Wear suitable gloves.  
S39: Wear eye/face protection.  
S45: In case of accident or if you feel unwell, seek medical advice immediately.  
S46: if swallowed, seek medical advice immediately and show this container or label.

**Hazard Symbols:**



(T+) Toxic



(C) Corrosive



(Xi) Irritant

**Use Restrictions:**

No restrictions.

Date Adopted	Reference No.
2005-010-24	DA- Lyme Disease IgG-2009



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**ISO 13485-2003**



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