

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/830 and US OSHA HCS 2015

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

- 1.1 Product Code:** 24830
Product Name: LAL Activity MaxSpec® Assay Substrate
Synonyms: P-PHMC;
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant identified uses: For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**
Company Name: Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108
Web site address: www.caymanchem.com
Information: Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**
Flammable Liquids, Category 2
Serious Eye Damage/Eye Irritation, Category 2
Specific Target Organ Toxicity (single exposure), Category 3

2.2 Label Elements:



GHS Signal Word: **Danger**

GHS Hazard Phrases:

EUH066: Repeated exposure may cause skin dryness or cracking.

H225: Highly flammable liquid and vapor.

H319: Causes serious eye irritation.

H336: May cause drowsiness or dizziness.

GHS Precautionary Phrases:

P210: Keep away from {heat/sparks/open flames/hot surfaces}. - No smoking.

P261: Avoid breathing {dust/fume/gas/mist/vapors/spray}.

P264: Wash {hands} thoroughly after handling.

P280: Wear {protective gloves/protective clothing/eye protection/face protection}.

GHS Response Phrases:

P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312: Call a POISON CENTER or doctor/physician if you feel unwell.

P337+313: If eye irritation persists, get medical advice/attention.

GHS Storage and Disposal Phrases:

Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.3 Adverse Human Health	Causes serious eye irritation.
Effects and Symptoms:	Material may be irritating to the mucous membranes and upper respiratory tract. May be harmful by inhalation, ingestion, or skin absorption. May cause drowsiness or dizziness. May cause skin or respiratory system irritation. Repeated exposure may cause skin dryness or cracking. To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	GHS Classification
NA NA	LAL Activity MaxSpec® Assay Substrate	0.1 %	NA NA	No data available.
79-20-9 AI9100000	Methyl acetate 01-2119459211-47	99.9 %	201-185-2 607-021-00-X	Flam. Liq. 2: H225 Eye Damage 2: H319 STOT (SE) 3: H335 H336 EUH066

Section 4. First Aid Measures

4.1 Description of First Aid Measures:	<p>In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.</p> <p>In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.</p> <p>In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.</p> <p>In Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.</p>
4.2 Important Symptoms and Effects, Both Acute and Delayed:	Exposure may cause: coughing, dizziness, drowsiness, headache, narcosis, optic nerve atrophy, chest tightness.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
Unsuitable Extinguishing Media:	A solid water stream may be inefficient.
5.2 Flammable Properties and Hazards:	Can release vapors that form explosive mixtures at temperatures at or above the flash point. Container explosion may occur under fire conditions. Emits toxic fumes under fire conditions. Sensitive to static discharge. Vapors can travel to a source of ignition and flash back. No data available.
Flash Pt:	-10.00 C Method Used: Closed Cup
Explosive Limits:	LEL: 3.1% at 25.0 C UEL: 16.0% at 25.0 C
Autoignition Pt:	455.00 C
5.3 Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or

equivalent), and full protective gear to prevent contact with skin and eyes.

Note: Flammable as diluted in methyl acetate.

Section 6. Accidental Release Measures

- 6.1 Protective Precautions,** Avoid breathing vapors and provide adequate ventilation.
Protective Equipment and As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator,
Emergency Procedures: and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
- 6.2 Environmental** Take steps to avoid release into the environment, if safe to do so.
Precautions:
- 6.3 Methods and Material For** Contain spill and collect, as appropriate.
Containment and Cleaning Transfer to a chemical waste container for disposal in accordance with local regulations.
Up:

Section 7. Handling and Storage

- 7.1 Precautions To Be Taken** Avoid breathing dust/fume/gas/mist/vapours/spray.
in Handling: Avoid prolonged or repeated exposure.
 Keep away from sources of ignition.
 Take precautionary measures against static discharge.
- 7.2 Precautions To Be Taken** Keep away from heat, sparks, and flame.
in Storing: Keep container tightly closed.
 Store in accordance with information listed on the product insert.
- Other Precautions:** Protect from moisture.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

CAS #	Chemical Name	Jurisdiction	Recommended Exposure Limits	Notations
79-20-9	Methyl acetate	ACGIH TLV	TLV: 200 ppm STEL: 250 ppm	
		France VL	TWA: 610 mg/m ³ (200 ppm) STEL: 760 mg/m ³ (250 ppm)	
		OSHA PELs	PEL: 200 ppm	
		Britain EH40	TWA: 616 mg/m ³ (200 ppm) STEL: 770 mg/m ³ (250 ppm)	

8.2 Exposure Controls:

- 8.2.1 Engineering Controls** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne
(Ventilation etc.): levels below recommended exposure limits.
- 8.2.2 Personal protection equipment:**
- Eye Protection:** Safety glasses
- Protective Gloves:** Compatible chemical-resistant gloves
- Other Protective Clothing:** Lab coat
- Respiratory Equipment** NIOSH approved respirator, as conditions warrant.
(Specify Type):
- Work/Hygienic/Maintenan** Do not take internally.
ce Practices: Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower.
 Wash thoroughly after handling.
 No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States:	[] Gas [X] Liquid [] Solid
Appearance and Odor:	A solution in methyl acetate
pH:	No data.
Melting Point:	No data.
Boiling Point:	No data.
Flash Pt:	-10.00 C Method Used: Closed Cup
Evaporation Rate:	No data.
Flammability (solid, gas):	No data available.
Explosive Limits:	LEL: 3.1% at 25.0 C UEL: 16.0% at 25.0 C
Vapor Pressure (vs. Air or mm Hg):	173 MM_HG at 20.0 C
Vapor Density (vs. Air = 1):	No data.
Specific Gravity (Water = 1):	No data.
Solubility in Water:	No data.
Octanol/Water Partition Coefficient:	No data.
Autoignition Pt:	455.00 C
Decomposition Temperature:	No data.
Viscosity:	No data.

9.2 Other Information

Percent Volatile:	No data.
Molecular Formula & Weight:	C ₂₉ H ₄₄ O ₄ 456.7

Section 10. Stability and Reactivity

10.1 Reactivity:	No data available.
10.2 Stability:	Unstable [] Stable [X]
10.3 Stability Note(s):	Stable if stored in accordance with information listed on the product insert.
Polymerization:	Will occur [] Will not occur [X]
10.4 Conditions To Avoid:	heat, flames, and sparks
10.5 Incompatibility - Materials To Avoid:	acids alkalis nitrates strong oxidizing agents
10.6 Hazardous Decomposition or Byproducts:	carbon dioxide carbon monoxide

Section 11. Toxicological Information

11.1 Information on Toxicological Effects: The toxicological effects of this product have not been thoroughly studied.
 Methyl Acetate - Toxicity Data: Oral LD50 (rat): >5,000 mg/kg; Oral LD50 (rabbit): 3,705 mg/kg; Skin LD50 (rabbit): >5,000 mg/kg; Inhalation TCLO (human): 15,000 mg/m³;
 Methyl Acetate - Irritation Data: Skin (rabbit): 500 mg (24h) mild; Eyes (rabbit): 100 mg (24h) moderate;

Chronic Toxicological Effects: Methyl Acetate - Investigated as a mutagen and primary irritant.
 Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.
 See actual entry in RTECS for complete information.
 Methyl Acetate RTECS Number: AI9100000

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
NA	LAL Activity MaxSpec® Assay Substrate	n.a.	n.a.	n.a.	n.a.
79-20-9	Methyl acetate	n.a.	n.a.	n.a.	n.a.

Section 12. Ecological Information

12.1 Toxicity: Avoid release into the environment.
 Runoff from fire control or dilution water may cause pollution.

12.2 Persistence and Degradability: No data available.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: No data available.

12.6 Other adverse effects: No data available.

Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Methyl Acetate Solution
DOT Hazard Class: 3 FLAMMABLE LIQUID
UN/NA Number: 1231 **Packing Group:** II



14.1 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name: Methyl Acetate Solution
UN Number: 1231 **Packing Group:** II
Hazard Class: 3 - FLAMMABLE LIQUID



SAFETY DATA SHEET

LAL Activity MaxSpec® Assay Substrate

14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Methyl Acetate Solution

UN Number: 1231

Packing Group: II

Hazard Class: 3 - FLAMMABLE LIQUID

IATA Classification: 3

Additional Transport

Transport in accordance with local, state, and federal regulations.

Information:

When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10.

Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
NA	LAL Activity MaxSpec® Assay Substrate	No	No	No
79-20-9	Methyl acetate	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
NA	LAL Activity MaxSpec® Assay Substrate	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
79-20-9	Methyl acetate	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 8A PAIR; CA PROP.65: No

Regulatory Information

This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC)

Statement:

No.1272/2008.

Section 16. Other Information

Revision Date:

08/04/2019

Additional Information About

No data available.

This Product:

Company Policy or Disclaimer:


DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/830 and US OSHA HCS 2015

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

- 1.1 Product Code:** 24831
Product Name: LAL Activity MaxSpec® Assay Product
Synonyms: 7-hydroxy-8-methyl-4-propyl-2H-1-benzopyran-2-one; PMHC;
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant identified uses: For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**
Company Name: Cayman Chemical Company
 1180 E. Ellsworth Rd.
 Ann Arbor, MI 48108
Web site address: www.caymanchem.com
Information: Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
 CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**
 Flammable Liquids, Category 2
- 2.2 Label Elements:**
- 
- GHS Signal Word:** **Danger**
- GHS Hazard Phrases:**
 H225: Highly flammable liquid and vapor.
- GHS Precautionary Phrases:**
 P210: Keep away from {heat/sparks/open flames/hot surfaces}. - No smoking.
 P280: Wear {protective gloves/protective clothing/eye protection/face protection}.
- GHS Response Phrases:**
 P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
- GHS Storage and Disposal Phrases:**
 Please refer to Section 7 for Storage and Section 13 for Disposal information.
- 2.3 Adverse Human Health** Material may be irritating to the mucous membranes and upper respiratory tract.
Effects and Symptoms: May be harmful by inhalation, ingestion, or skin absorption.
 May cause eye, skin, or respiratory system irritation.
 To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	GHS Classification
95184-99-9 NA	7-hydroxy-8-methyl-4-propyl-2H-1-benzopyran-2-one	0.01 %	NA NA	Acute Tox.(O) 4: H302 Acute Tox.(D) 4: H312 Acute Tox.(I) 4: H332
64-17-5 KQ6300000	Ethyl alcohol 01-2119457610-43-0000	99.99 %	200-578-6	Flam. Liq. 2: H225

603-002-00-5

Section 4. First Aid Measures

- 4.1 Description of First Aid Measures:**
- In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
- In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.
- In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
- 4.2 Important Symptoms and Effects, Both Acute and Delayed:** May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.

Section 5. Fire Fighting Measures

- 5.1 Suitable Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.
- Unsuitable Extinguishing Media:** A solid water stream may be inefficient.
- 5.2 Flammable Properties and Hazards:** Can release vapors that form explosive mixtures at temperatures at or above the flashpoint.
- Container explosion may occur under fire conditions.
 Emits toxic fumes under fire conditions.
 Sensitive to static discharge.
 Vapors can travel to a source of ignition and flash back.
 No data available.
- Flash Pt:** 14.00 C Method Used: Closed Cup
- Explosive Limits:** LEL: 3.3% at 25.0 C UEL: 19.0% at 25.0 C
- Autoignition Pt:** 363.00 C
- 5.3 Fire Fighting Instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
 Note: Flammable as diluted in ethanol.

Section 6. Accidental Release Measures

- 6.1 Protective Precautions, Protective Equipment and Emergency Procedures:** Avoid breathing vapors and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
- 6.2 Environmental Precautions:** Take steps to avoid release into the environment, if safe to do so.
- 6.3 Methods and Material For Containment and Cleaning Up:** Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

- 7.1 Precautions To Be Taken in Handling:** Avoid breathing dust/fume/gas/mist/vapours/spray.
 Avoid prolonged or repeated exposure.
 Keep away from sources of ignition.
 Take precautionary measures against static discharge.
- 7.2 Precautions To Be Taken in Storing:** Keep away from heat, sparks, and flame.
 Keep container tightly closed.
 Store in accordance with information listed on the product insert.
- Other Precautions:** Hygroscopic

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

CAS #	Chemical Name	Jurisdiction	Recommended Exposure Limits	Notations
64-17-5	Ethyl alcohol	ACGIH TLV	TLV: 1000 ppm STEL: 1000 ppm	
		France VL	TWA: 1900 mg/m3 (1000 ppm) STEL: 9500 mg/m3 (5000 ppm)	
		OSHA PELs	PEL: 1000 ppm	
		Britain EH40	TWA: 1920 mg/m3 (1000 ppm) STEL: ()	

8.2 Exposure Controls:

- 8.2.1 Engineering Controls (Ventilation etc.):** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
- 8.2.2 Personal protection equipment:**
- Eye Protection:** Safety glasses
- Protective Gloves:** Compatible chemical-resistant gloves
- Other Protective Clothing:** Lab coat
- Respiratory Equipment (Specify Type):** NIOSH approved respirator, as conditions warrant.
- Work/Hygienic/Maintenance Practices:** Do not take internally.
 Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower.
 Wash thoroughly after handling.
 No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

- Physical States:** [] Gas [X] Liquid [] Solid
- Appearance and Odor:** A solution in ethanol
- pH:** No data.
- Melting Point:** No data.
- Boiling Point:** No data.
- Flash Pt:** 14.00 C Method Used: Closed Cup
- Evaporation Rate:** No data.
- Flammability (solid, gas):** No data available.
- Explosive Limits:** LEL: 3.3% at 25.0 C UEL: 19.0% at 25.0 C
- Vapor Pressure (vs. Air or mm Hg):** 43 MM_HG at 20.0 C
- Vapor Density (vs. Air = 1):** No data.

Specific Gravity (Water = 1):	No data.
Solubility in Water:	No data.
Octanol/Water Partition	No data.
Coefficient:	
Autoignition Pt:	363.00 C
Decomposition Temperature:	No data.
Viscosity:	No data.
9.2 Other Information	
Percent Volatile:	No data.
Molecular Formula & Weight:	C13H14O3 218.2

Section 10. Stability and Reactivity

10.1 Reactivity:	No data available.
10.2 Stability:	Unstable [] Stable [X]
10.3 Stability Note(s):	Stable if stored in accordance with information listed on the product insert.
Polymerization:	Will occur [] Will not occur [X]
10.4 Conditions To Avoid:	heat, flames, and sparks
10.5 Incompatibility - Materials To Avoid:	alkali metals ammonia peroxides strong oxidizing agents
10.6 Hazardous Decomposition or Byproducts:	carbon dioxide carbon monoxide

Section 11. Toxicological Information

11.1 Information on Toxicological Effects:	The toxicological effects of this product have not been thoroughly studied. Ethanol - Toxicity Data: Oral TDLO (man): 1.14 ml/kg; Oral TDLO (man): 650 mg/kg; Oral LD50 (rat): 7,060 mg/kg; Oral LD50 (mouse): 3,450 mg/kg; Oral LD50 (mouse): 10.5 ml/kg; Oral LD50 (rabbit): 6,300 mg/kg; Inhalation LC50 (rat): 20,000 ppm (10h); Inhalation TCLO (human): 1,800 ppm (30m); Inhalation TCLO (human): 2,500 mg/m3 (20m); Inhalation LC50 (rat): 5,900 mg/m3 (6h); Inhalation LCLO (mouse): 29,300 ppm (7h); Ethanol - Irritation Data: Eyes (rabbit): 500 mg (24h) mild; Skin (rabbit): 20 mg (24h) moderate;
Chronic Toxicological Effects:	Ethanol - Investigated as a drug, mutagen, natural product, primary irritant, reproductive effector, and tumorigen. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information. Ethanol RTECS Number: KQ6300000
Carcinogenicity:	NTP? No IARC Monographs? No OSHA Regulated? No

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
95184-99-9	7-hydroxy-8-methyl-4-propyl-2H-1-benzopyran-2-one	n.a.	n.a.	n.a.	n.a.
64-17-5	Ethyl alcohol	n.a.	1	A4	n.a.

Section 12. Ecological Information

- 12.1 Toxicity:** Avoid release into the environment.
 Runoff from fire control or dilution water may cause pollution.
- 12.2 Persistence and Degradability:** No data available.
- 12.3 Bioaccumulative Potential:** No data available.
- 12.4 Mobility in Soil:** No data available.
- 12.5 Results of PBT and vPvB assessment:** No data available.
- 12.6 Other adverse effects:** No data available.

Section 13. Disposal Considerations

- 13.1 Waste Disposal Method:** Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Ethyl Alcohol Solution
DOT Hazard Class: 3 FLAMMABLE LIQUID
UN/NA Number: UN1170 **Packing Group:** II



14.1 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name: Ethyl Alcohol Solution
UN Number: 1170 **Packing Group:** II
Hazard Class: 3 - FLAMMABLE LIQUID

14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Ethyl Alcohol Solution
UN Number: 1170 **Packing Group:** II
Hazard Class: 3 - FLAMMABLE LIQUID **IATA Classification:** 3

Additional Transport Information: Transport in accordance with local, state, and federal regulations.
 When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10.
 Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
95184-99-9	7-hydroxy-8-methyl-4-propyl-2H-1-benzopyran-2-one	No	No	No
64-17-5	Ethyl alcohol	No	No	No



SAFETY DATA SHEET

LAL Activity MaxSpec® Assay Product

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
95184-99-9	7-hydroxy-8-methyl-4-propyl-2H-1-benzopyran-2-one	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
64-17-5	Ethyl alcohol	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

Section 16. Other Information

Revision Date: 08/04/2019

Additional Information About This Product: No data available.

This Product:


Company Policy or Disclaimer: DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/830 and US OSHA HCS 2015

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

- 1.1 Product Code:** 24832
Product Name: LAL Activity MaxSpec® Assay Internal Standard
Synonyms: 13C4-PMHC;
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant identified uses: For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**
Company Name: Cayman Chemical Company
 1180 E. Ellsworth Rd.
 Ann Arbor, MI 48108
Web site address: www.caymanchem.com
Information: Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
 CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**
 Flammable Liquids, Category 2
- 2.2 Label Elements:**
- 
- GHS Signal Word:** Danger
- GHS Hazard Phrases:**
 H225: Highly flammable liquid and vapor.
- GHS Precautionary Phrases:**
 P210: Keep away from {heat/sparks/open flames/hot surfaces}. - No smoking.
 P280: Wear {protective gloves/protective clothing/eye protection/face protection}.
- GHS Response Phrases:**
 P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
- GHS Storage and Disposal Phrases:**
 Please refer to Section 7 for Storage and Section 13 for Disposal information.
- 2.3 Adverse Human Health** Material may be irritating to the mucous membranes and upper respiratory tract.
Effects and Symptoms: May be harmful by inhalation, ingestion, or skin absorption.
 May cause eye, skin, or respiratory system irritation.
 To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	GHS Classification
NA NA	LAL Activity MaxSpec® Assay Internal Standard	0.001 %	NA NA	No data available.
64-17-5 KQ6300000	Ethyl alcohol 01-2119457610-43-0000	99.0 %	200-578-6 603-002-00-5	Flam. Liq. 2: H225

Section 4. First Aid Measures

- 4.1 Description of First Aid Measures:**
- In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
- In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.
- In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
- 4.2 Important Symptoms and Effects, Both Acute and Delayed:** May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.

Section 5. Fire Fighting Measures

- 5.1 Suitable Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.
- Unsuitable Extinguishing Media:** A solid water stream may be inefficient.
- 5.2 Flammable Properties and Hazards:** Can release vapors that form explosive mixtures at temperatures at or above the flashpoint.
- Container explosion may occur under fire conditions.
 Emits toxic fumes under fire conditions.
 Sensitive to static discharge.
 Vapors can travel to a source of ignition and flash back.
 No data available.
- Flash Pt:** 14.00 C Method Used: Closed Cup
- Explosive Limits:** LEL: 3.3% at 25.0 C UEL: 19.0% at 25.0 C
- Autoignition Pt:** 363.00 C
- 5.3 Fire Fighting Instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
 Note: Flammable as diluted in ethanol.

Section 6. Accidental Release Measures

- 6.1 Protective Precautions, Protective Equipment and Emergency Procedures:** Avoid breathing vapors and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
- 6.2 Environmental Precautions:** Take steps to avoid release into the environment, if safe to do so.
- 6.3 Methods and Material For Containment and Cleaning Up:** Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

- 7.1 Precautions To Be Taken in Handling:** Avoid breathing dust/fume/gas/mist/vapours/spray.
 Avoid prolonged or repeated exposure.
 Keep away from sources of ignition.
 Take precautionary measures against static discharge.
- 7.2 Precautions To Be Taken in Storing:** Keep away from heat, sparks, and flame.
 Keep container tightly closed.
 Store in accordance with information listed on the product insert.
- Other Precautions:** Hygroscopic

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

CAS #	Chemical Name	Jurisdiction	Recommended Exposure Limits	Notations
64-17-5	Ethyl alcohol	ACGIH TLV	TLV: 1000 ppm STEL: 1000 ppm	
		France VL	TWA: 1900 mg/m3 (1000 ppm) STEL: 9500 mg/m3 (5000 ppm)	
		OSHA PELs	PEL: 1000 ppm	
		Britain EH40	TWA: 1920 mg/m3 (1000 ppm) STEL: ()	

8.2 Exposure Controls:

- 8.2.1 Engineering Controls (Ventilation etc.):** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
- 8.2.2 Personal protection equipment:**
- Eye Protection:** Safety glasses
- Protective Gloves:** Compatible chemical-resistant gloves
- Other Protective Clothing:** Lab coat
- Respiratory Equipment (Specify Type):** NIOSH approved respirator, as conditions warrant.
- Work/Hygienic/Maintenance Practices:** Do not take internally.
 Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower.
 Wash thoroughly after handling.
 No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

- Physical States:** [] Gas [X] Liquid [] Solid
- Appearance and Odor:** A solution in ethanol
- pH:** No data.
- Melting Point:** No data.
- Boiling Point:** No data.
- Flash Pt:** 14.00 C Method Used: Closed Cup
- Evaporation Rate:** No data.
- Flammability (solid, gas):** No data available.
- Explosive Limits:** LEL: 3.3% at 25.0 C UEL: 19.0% at 25.0 C
- Vapor Pressure (vs. Air or mm Hg):** 43 MM_HG at 20.0 C
- Vapor Density (vs. Air = 1):** No data.

Specific Gravity (Water = 1):	No data.
Solubility in Water:	No data.
Octanol/Water Partition	No data.
Coefficient:	
Autoignition Pt:	363.00 C
Decomposition Temperature:	No data.
Viscosity:	No data.
9.2 Other Information	
Percent Volatile:	No data.
Molecular Formula & Weight:	C ₉ [13C] ₄ H ₁₄ O ₃ 0.0

Section 10. Stability and Reactivity

10.1 Reactivity:	No data available.
10.2 Stability:	Unstable [] Stable [X]
10.3 Stability Note(s):	Stable if stored in accordance with information listed on the product insert.
Polymerization:	Will occur [] Will not occur [X]
10.4 Conditions To Avoid:	heat, flames, and sparks
10.5 Incompatibility - Materials To Avoid:	alkali metals ammonia peroxides strong oxidizing agents
10.6 Hazardous Decomposition or Byproducts:	carbon dioxide carbon monoxide

Section 11. Toxicological Information

11.1 Information on Toxicological Effects:	The toxicological effects of this product have not been thoroughly studied. Ethanol - Toxicity Data: Oral TDLO (man): 1.14 ml/kg; Oral TDLO (man): 650 mg/kg; Oral LD50 (rat): 7,060 mg/kg; Oral LD50 (mouse): 3,450 mg/kg; Oral LD50 (mouse): 10.5 ml/kg; Oral LD50 (rabbit): 6,300 mg/kg; Inhalation LC50 (rat): 20,000 ppm (10h); Inhalation TCLO (human): 1,800 ppm (30m); Inhalation TCLO (human): 2,500 mg/m ³ (20m); Inhalation LC50 (rat): 5,900 mg/m ³ (6h); Inhalation LCLO (mouse): 29,300 ppm (7h); Ethanol - Irritation Data: Eyes (rabbit): 500 mg (24h) mild; Skin (rabbit): 20 mg (24h) moderate;
Chronic Toxicological Effects:	Ethanol - Investigated as a drug, mutagen, natural product, primary irritant, reproductive effector, and tumorigen. Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information. Ethanol RTECS Number: KQ6300000
Carcinogenicity:	NTP? No IARC Monographs? No OSHA Regulated? No

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
NA	LAL Activity MaxSpec® Assay Internal Standard	n.a.	n.a.	n.a.	n.a.
64-17-5	Ethyl alcohol	n.a.	1	A4	n.a.

Section 12. Ecological Information

- 12.1 Toxicity:** Avoid release into the environment.
 Runoff from fire control or dilution water may cause pollution.
- 12.2 Persistence and Degradability:** No data available.
- 12.3 Bioaccumulative Potential:** No data available.
- 12.4 Mobility in Soil:** No data available.
- 12.5 Results of PBT and vPvB assessment:** No data available.
- 12.6 Other adverse effects:** No data available.

Section 13. Disposal Considerations

- 13.1 Waste Disposal Method:** Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Ethyl Alcohol Solution
DOT Hazard Class: 3 FLAMMABLE LIQUID
UN/NA Number: UN1170 **Packing Group:** II



14.1 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name: Ethyl Alcohol Solution
UN Number: 1170 **Packing Group:** II
Hazard Class: 3 - FLAMMABLE LIQUID

14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Ethyl Alcohol Solution
UN Number: 1170 **Packing Group:** II
Hazard Class: 3 - FLAMMABLE LIQUID **IATA Classification:** 3

Additional Transport Information: Transport in accordance with local, state, and federal regulations.
 When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10.
 Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
NA	LAL Activity MaxSpec® Assay Internal Standard	No	No	No
64-17-5	Ethyl alcohol	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
NA	LAL Activity MaxSpec® Assay Internal Standard	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
64-17-5	Ethyl alcohol	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes -



SAFETY DATA SHEET

LAL Activity MaxSpec® Assay Internal Standard

Inventory; CA PROP.65: No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

Section 16. Other Information

Revision Date: 08/04/2019

Additional Information About This Product: No data available.

This Product:


Company Policy or Disclaimer: DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/830 and US OSHA HCS 2015

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

- 1.1 Product Code:** 28361
Product Name: Cardiolipin (bovine heart) Solution
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant identified uses: For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**
Company Name: Cayman Chemical Company
 1180 E. Ellsworth Rd.
 Ann Arbor, MI 48108
Web site address: www.caymanchem.com
Information: Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
 CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**
 Flammable Liquids, Category 2
- 2.2 Label Elements:**
- 
- GHS Signal Word:** **Danger**
- GHS Hazard Phrases:**
 H225: Highly flammable liquid and vapor.
- GHS Precautionary Phrases:**
 P210: Keep away from {heat/sparks/open flames/hot surfaces}. - No smoking.
 P280: Wear {protective gloves/protective clothing/eye protection/face protection}.
- GHS Response Phrases:**
 P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
- GHS Storage and Disposal Phrases:**
 Please refer to Section 7 for Storage and Section 13 for Disposal information.
- 2.3 Adverse Human Health** Material may be irritating to the mucous membranes and upper respiratory tract.
Effects and Symptoms: May be harmful by inhalation, ingestion, or skin absorption.
 May cause eye, skin, or respiratory system irritation.
 To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	GHS Classification
NA NA	Cardiolipin (bovine heart) Solution	0.5 %	NA NA	No data available.
64-17-5 KQ6300000	Ethyl alcohol 01-2119457610-43-0000	99.5 %	200-578-6 603-002-00-5	Flam. Liq. 2: H225

Section 4. First Aid Measures

- 4.1 Description of First Aid Measures:**
- In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
- In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.
- In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.
- 4.2 Important Symptoms and Effects, Both Acute and Delayed:** May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.

Section 5. Fire Fighting Measures

- 5.1 Suitable Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.
 Use water spray to cool fire-exposed containers.
- Unsuitable Extinguishing Media:** A solid water stream may be inefficient.
- 5.2 Flammable Properties and Hazards:** Can release vapors that form explosive mixtures at temperatures at or above the flashpoint.
- Container explosion may occur under fire conditions.
 Emits toxic fumes under fire conditions.
 Sensitive to static discharge.
 Vapors can travel to a source of ignition and flash back.
 No data available.
- Flash Pt:** 14.00 C Method Used: Closed Cup
- Explosive Limits:** LEL: 3.3% at 25.0 C UEL: 19.0% at 25.0 C
- Autoignition Pt:** 363.00 C
- 5.3 Fire Fighting Instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
 Note: Flammable as diluted in ethanol.

Section 6. Accidental Release Measures

- 6.1 Protective Precautions, Protective Equipment and Emergency Procedures:** Avoid breathing vapors and provide adequate ventilation.
 As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
- 6.2 Environmental Precautions:** Take steps to avoid release into the environment, if safe to do so.
- 6.3 Methods and Material For Containment and Cleaning Up:** Contain spill and collect, as appropriate.
 Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

- 7.1 Precautions To Be Taken in Handling:** Avoid breathing dust/fume/gas/mist/vapours/spray.
 Avoid prolonged or repeated exposure.
 Keep away from sources of ignition.
 Take precautionary measures against static discharge.
- 7.2 Precautions To Be Taken in Storing:** Keep away from heat, sparks, and flame.
 Keep container tightly closed.
 Store in accordance with information listed on the product insert.
- Other Precautions:** Hygroscopic

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

CAS #	Chemical Name	Jurisdiction	Recommended Exposure Limits	Notations
64-17-5	Ethyl alcohol	ACGIH TLV	TLV: 1000 ppm STEL: 1000 ppm	
		France VL	TWA: 1900 mg/m3 (1000 ppm) STEL: 9500 mg/m3 (5000 ppm)	
		OSHA PELs	PEL: 1000 ppm	
		Britain EH40	TWA: 1920 mg/m3 (1000 ppm) STEL: ()	

8.2 Exposure Controls:

- 8.2.1 Engineering Controls (Ventilation etc.):** Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
- 8.2.2 Personal protection equipment:**
- Eye Protection:** Safety glasses
- Protective Gloves:** Compatible chemical-resistant gloves
- Other Protective Clothing:** Lab coat
- Respiratory Equipment (Specify Type):** NIOSH approved respirator, as conditions warrant.
- Work/Hygienic/Maintenance Practices:** Do not take internally.
 Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower.
 Wash thoroughly after handling.
 No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

- Physical States:** [] Gas [X] Liquid [] Solid
- Appearance and Odor:** A solution in ethanol
- pH:** No data.
- Melting Point:** No data.
- Boiling Point:** No data.
- Flash Pt:** 14.00 C Method Used: Closed Cup
- Evaporation Rate:** No data.
- Flammability (solid, gas):** No data available.
- Explosive Limits:** LEL: 3.3% at 25.0 C UEL: 19.0% at 25.0 C
- Vapor Pressure (vs. Air or mm Hg):** 43 MM_HG at 20.0 C
- Vapor Density (vs. Air = 1):** No data.

Specific Gravity (Water = 1):	No data.
Solubility in Water:	No data.
Octanol/Water Partition	No data.
Coefficient:	
Autoignition Pt:	363.00 C
Decomposition Temperature:	No data.
Viscosity:	No data.
9.2 Other Information	
Percent Volatile:	No data.

Section 10. Stability and Reactivity

10.1 Reactivity:	No data available.
10.2 Stability:	Unstable [] Stable [X]
10.3 Stability Note(s):	Stable if stored in accordance with information listed on the product insert.
Polymerization:	Will occur [] Will not occur [X]
10.4 Conditions To Avoid:	heat, flames, and sparks
10.5 Incompatibility - Materials To Avoid:	alkali metals ammonia peroxides strong oxidizing agents
10.6 Hazardous Decomposition or Byproducts:	carbon dioxide carbon monoxide

Section 11. Toxicological Information

11.1 Information on Toxicological Effects:	<p>The toxicological effects of this product have not been thoroughly studied.</p> <p>Ethanol - Toxicity Data: Oral TDLO (man): 1.14 ml/kg; Oral TDLO (man): 650 mg/kg; Oral LD50 (rat): 7,060 mg/kg; Oral LD50 (mouse): 3,450 mg/kg; Oral LD50 (mouse): 10.5 ml/kg; Oral LD50 (rabbit): 6,300 mg/kg; Inhalation LC50 (rat): 20,000 ppm (10h); Inhalation TCLO (human): 1,800 ppm (30m); Inhalation TCLO (human): 2,500 mg/m³ (20m); Inhalation LC50 (rat): 5,900 mg/m³ (6h); Inhalation LCLO (mouse): 29,300 ppm (7h);</p> <p>Ethanol - Irritation Data: Eyes (rabbit): 500 mg (24h) mild; Skin (rabbit): 20 mg (24h) moderate;</p>
Chronic Toxicological Effects:	<p>Ethanol - Investigated as a drug, mutagen, natural product, primary irritant, reproductive effector, and tumorigen.</p> <p>Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.</p> <p>Ethanol RTECS Number: KQ6300000</p>
Carcinogenicity:	NTP? No IARC Monographs? No OSHA Regulated? No

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
NA	Cardiolipin (bovine heart) Solution	n.a.	n.a.	n.a.	n.a.
64-17-5	Ethyl alcohol	n.a.	1	A4	n.a.

Section 12. Ecological Information

- 12.1 Toxicity:** Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.
- 12.2 Persistence and Degradability:** No data available.
- 12.3 Bioaccumulative Potential:** No data available.
- 12.4 Mobility in Soil:** No data available.
- 12.5 Results of PBT and vPvB assessment:** No data available.
- 12.6 Other adverse effects:** No data available.

Section 13. Disposal Considerations

- 13.1 Waste Disposal Method:** Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Ethyl Alcohol Solution
DOT Hazard Class: 3 FLAMMABLE LIQUID
UN/NA Number: UN1170 **Packing Group:** II



14.1 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name: Ethyl Alcohol Solution
UN Number: 1170 **Packing Group:** II
Hazard Class: 3 - FLAMMABLE LIQUID

14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Ethyl Alcohol Solution
UN Number: 1170 **Packing Group:** II
Hazard Class: 3 - FLAMMABLE LIQUID **IATA Classification:** 3

Additional Transport Information: Transport in accordance with local, state, and federal regulations.
 When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10.
 Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
NA	Cardiolipin (bovine heart) Solution	No	No	No
64-17-5	Ethyl alcohol	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
NA	Cardiolipin (bovine heart) Solution	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No
64-17-5	Ethyl alcohol	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes -



SAFETY DATA SHEET

Cardiolipin (bovine heart) Solution

Inventory; CA PROP.65: No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

Section 16. Other Information

Revision Date: 08/04/2019

Additional Information About This Product: No data available.

Company Policy or Disclaimer: DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 2015/830 and US OSHA HCS 2015

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

- 1.1 Product Code:** 28362
Product Name: LAL Activity Assay Buffer
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant identified uses: For research use only, not for human or veterinary use.
- 1.3 Details of the Supplier of the Safety Data Sheet:**
Company Name: Cayman Chemical Company
 1180 E. Ellsworth Rd.
 Ann Arbor, MI 48108
Web site address: www.caymanchem.com
Information: Cayman Chemical Company +1 (734)971-3335
- 1.4 Emergency telephone number:**
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
 CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

- 2.1 Classification of the Substance or Mixture:**
- 2.2 Label Elements:**
GHS Signal Word: **None**
GHS Hazard Phrases:
 Based on evaluation of currently available data this substance or mixture is not classifiable according to GHS.
GHS Precautionary Phrases:
 No phrases apply.
GHS Response Phrases:
 No phrases apply.
GHS Storage and Disposal Phrases:
 Please refer to Section 7 for Storage and Section 13 for Disposal information.
- 2.3 Adverse Human Health** Material may be irritating to the mucous membranes and upper respiratory tract.
Effects and Symptoms: May be harmful by inhalation, ingestion, or skin absorption.
 May cause eye, skin, or respiratory system irritation.
 To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	GHS Classification
NA NA	LAL Activity Assay Buffer	100.0 %	NA NA	No data available.

Section 4. First Aid Measures

4.1 Description of First Aid

Measures:

In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

In Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

Media: Use water spray to cool fire-exposed containers.

Unsuitable Extinguishing Media: A solid water stream may be inefficient.

Media:

5.2 Flammable Properties and Hazards: No data available.

No data available.

Flash Pt: No data.

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data.

5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

Section 6. Accidental Release Measures

6.1 Protective Precautions, Avoid raising and breathing dust, and provide adequate ventilation.

Protective Equipment and Emergency Procedures: As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

6.2 Environmental Precautions: Take steps to avoid release into the environment, if safe to do so.

6.3 Methods and Material For Containment and Cleaning Up: Contain spill and collect, as appropriate.

Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling: Avoid breathing dust/fume/gas/mist/vapours/spray.

Avoid prolonged or repeated exposure.

7.2 Precautions To Be Taken in Storing: Keep container tightly closed.

Store in accordance with information listed on the product insert.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

8.2 Exposure Controls:

8.2.1 Engineering Controls Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

(Ventilation etc.):

8.2.2 Personal protection equipment:

Eye Protection: Safety glasses

Protective Gloves: Compatible chemical-resistant gloves

Other Protective Clothing: Lab coat

Respiratory Equipment NIOSH approved respirator, as conditions warrant.

(Specify Type):

Work/Hygienic/Maintenan Do not take internally.

ce Practices: Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower.

Wash thoroughly after handling.

No data available.

Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States: [] Gas [X] Liquid [] Solid

Appearance and Odor: Liquid

pH: No data.

Melting Point: No data.

Boiling Point: No data.

Flash Pt: No data.

Evaporation Rate: No data.

Flammability (solid, gas): No data available.

Explosive Limits: LEL: No data. UEL: No data.

Vapor Pressure (vs. Air or mm No data.

Hg):

Vapor Density (vs. Air = 1): No data.

Specific Gravity (Water = 1): No data.

Solubility in Water: No data.

Octanol/Water Partition No data.

Coefficient:

Autoignition Pt: No data.

Decomposition Temperature: No data.

Viscosity: No data.

9.2 Other Information

Percent Volatile: No data.

Section 10. Stability and Reactivity

10.1 Reactivity: No data available.

10.2 Stability: Unstable [] Stable [X]

10.3 Stability Note(s): Stable if stored in accordance with information listed on the product insert.

Polymerization: Will occur [] Will not occur [X]

10.4 Conditions To Avoid: No data available.

10.5 Incompatibility - Materials No data available.

To Avoid:

10.6 Hazardous No data available.

Decomposition or

Byproducts:

Section 11. Toxicological Information

11.1 Information on Toxicological Effects: The toxicological effects of this product have not been thoroughly studied.

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
NA	LAL Activity Assay Buffer	n.a.	n.a.	n.a.	n.a.

Section 12. Ecological Information

12.1 Toxicity: Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.

12.2 Persistence and Degradability: No data available.

12.3 Bioaccumulative Potential: No data available.

12.4 Mobility in Soil: No data available.

12.5 Results of PBT and vPvB assessment: No data available.

12.6 Other adverse effects: No data available.

Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Not dangerous goods.
DOT Hazard Class:
UN/NA Number:

14.1 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name: Not dangerous goods.
UN Number:
Hazard Class:

14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Not dangerous goods.
UN Number: **Packing Group:**
Hazard Class:

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
NA	LAL Activity Assay Buffer	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
NA	LAL Activity Assay Buffer	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No

Regulatory Information Statement:	This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.
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Section 16. Other Information

Revision Date:	10/04/2019
Additional Information About This Product:	No data available.
Company Policy or Disclaimer:	DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.