



SIGMA-ALDRICH

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Safety & Environmental
Health

Material Safety Data Sheet

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Section 1 - Product and Company Information

Product Name Cardiolipin solution from bovine heart
Product Number C1649
Brand Sigma Chemical

Company Sigma-Aldrich
Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5832
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Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
CARDIOLIPIN DISODIUM SALT FROM BOVINE HEART, 5 MG/ML IN ETOH*	None	No		

Ingredient Name	CAS #	Percent	SARA 313
CARDIOLIPIN FROM BOVINE HEART SODIUM ETHYL ALCOHOL, NON-DENATURED, 200 PROOF	None	0.500 %	
	64-17-5	99.500 %	

Formula
Synonyms

Section 3 - Hazards Identification

Emergency Overview
Flammable (USA) Highly Flammable (EU). Irritant.
Irritating to eyes, respiratory system and skin.
Target organ(s): Nerves. Liver.

HMIS Rating
Health: 2* Flammability: 3 Reactivity: 0

NFPA Rating
Health: 2 Flammability: 3 Reactivity: 0

*additional chronic hazards present.

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. If breathing is difficult, give oxygen.

Dermal Exposure

In case of contact, immediately wash skin with soap and copious amounts of water.

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 Fighting Measures

Flammable Hazards: Yes

Flash Point: 57.2 °F 14 °C

Autoignition Temp: N/A **Flammability:** Yes

Extinguishing Media
Suitable
Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting

Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)

Flammable liquid. Vapor may travel considerable distance to source of ignition and flash back.

Specific Method(s) of Fire Fighting

Use water spray to cool fire-exposed containers.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill

Evacuate area. Shut off all sources of ignition.

Procedure(s) of Personal Precaution(s)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Keep tightly closed. Keep away from heat, sparks, and open flame. Store at -20°C

Section 8 - Exposure Controls / PPE

Engineering Controls

Use only in a chemical fume hood. Safety shower and eye bath.

Personal Protective Equipment

Respiratory

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose

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(EU) Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a fullface supplied air respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

Skin-Specific

Chemical resistant apron.

General Hygiene Measures

Wash thoroughly after handling.

Exposure Limits

Country	Type	Value
Poland	NDS	1900 MG/M3
Remarks	ETHANOL	
Poland	NDSch	
Remarks	ETHANOL	
Poland	NDSP	
Remarks	ETHANOL	

Section 9 - Physical/Chemical Properties

Appearance	Color
Physical State	
Clear liquid	Colorless

Molecular Weight N/A

pH	N/A
BP/BP Range	78 - 80 °C
MP/MP Range	N/A
Freezing Point	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
SG/Density	0.79 g/cm3
Bulk Density	N/A
Odor Threshold	N/A
Volatile%	N/A
VOC Content	N/A
Water Content	N/A
Solvent Content	N/A
Evaporation Rate	N/A
Viscosity	N/A
Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point °F	57.2 °F
Flash Point °C	14 °C

Method: closed cup
Method: closed cup

Explosion Limits N/A

Flammability	N/A
Autoignition Temp	N/A
Refractive Index	1.362

Solubility N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability

Stable.

Stable.

Conditions to Avoid

Moisture.

Materials to Avoid

Acids, Acid chlorides, Acid anhydrides, Alkali metals, Ammonia, Oxidizing agents, Peroxides

Hazardous Decomposition Products

Hazardous Decomposition Products

Nature of decomposition products not known

Hazardous Polymerization

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

Route of Exposure

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.

Target Organ(s) or System(s)

Nerves. Liver. Heart.

Signs and Symptoms of Exposure

Can cause CNS depression. Exposure can cause: Narcotic effect. Nausea, headache, and vomiting. Damage to the heart. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: N/A

Chronic Exposure- Carcinogen

Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Ethanol [or] Ethyl alcohol [or] Ethanol solutions [or] Ethyl alcohol solutions
UN#: 1170
Class: 3
Packing Group: Packing Group II
Hazard Label: Flammable liquid
PIH: Not PIH

IATA

Proper Shipping Name: Ethanol solution
IATA UN Number: 1170
Hazard Class: 3
Packing Group: II

Section 15 - Regulatory Information

EU Additional Classification

Symbol of Danger: F

Indication of Danger

Highly Flammable.

Risk Statements R: 11

Highly flammable.

Safety Statements S: 7 16

Keep container tightly closed. Keep away from sources of ignition - no smoking.

US Classification and Label Text

Indication of Danger

Flammable (USA) Highly Flammable (EU). Irritant.

Risk Statements

Irritating to eyes, respiratory system and skin.

Safety Statements

Keep container tightly closed. Keep away from sources of ignition - no smoking. 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): Nerves, Liver.

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

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. SigmaAldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2009 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

