



SIGMA-ALDRICH

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Safety & Environmental  
Health

Material Safety Data Sheet

Date Printed: 06/08/2009  
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Version 1.60

Section 1 - Product and Company Information

Product Name: Cardioliplin 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  
Fax: 800-325-5052  
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Table with columns: Substance Name, CAS #, SARA 313, EC no, Annex I Index Number. Includes data for CARDIOLIPLIN DISODIUM SALT FROM BOVINE HEART and its ingredients.

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

(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

Physical State	Color
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.

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## Section 14 - Transport Information

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### 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

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## Section 15 - Regulatory Information

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### 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

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## Section 16 - Other Information

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### 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.

