

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

# SAFETY DATA SHEET

Version: v1

Revision Date: 2024-01-10

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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

Product name : 2-Chloroethyl ether  
Product Number : C107457  
Brand : aladdin  
CAS-No. : 111-44-4

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances.

### 1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION  
Address : 14078 Meridian Parkway,  
Riverside, CA. 92518  
Telephone : +1 (833) 552-7181  
Fax : no data available

### 1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 1-800-424-9300  
CHEMTREC®, Outside the USA :

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 3), H226

Acute toxicity, Oral (Category 2), H300


Acute toxicity, Inhalation (Category 2), H330

Acute toxicity, Dermal (Category 1), H310

Carcinogenicity (Category 2), H351

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal word	Danger
Hazard statement(s)	
H300	Fatal if swallowed
H310	Fatal in contact with skin
Precautionary statement(s)	
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash hands [and ...] thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] Wear respiratory protection.
P320	Specific treatment is urgent (see ... on this label).
P330	Rinse mouth.
P302+P352	IF ON SKIN: wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to an approved waste disposal plant.

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms	: 2,2'-Dichlorodiethyl ether; Bis(2-chloroethyl) ether; 2,2'-Dichloroethyl Ether
Formula	: C4H8Cl2O
Molecular weight	: 143.01
CAS No.	: 111-44-4
EC-NO.	: 203-870-1

Component	Classification	Concentration
2-Chloroethyl ether	Flam. Liq. 3; Acute Tox. 2; Acute Tox. 1; Carc. 2; H226, H300, H330, H310, H351	99%

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

no data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

Unsuitable extinguishing media

no data available

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides Hydrogen chloride gas Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air at elevated temperatures. Development of hazardous combustion gases or vapours possible in the event of fire.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

**6.2 Environmental precautions**

Do not let product enter drains. Risk of explosion.

**6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Dispose of properly. Clean up affected area.

**6.4 Reference to other sections**

For disposal see section 13.

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**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

**7.2 Conditions for safe storage, including any incompatibilities**

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons. Recommended storage temperature 2 - 8 °C

**7.3 Specific end use(s)**

no data available

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**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****8.2 Exposure controls**

Appropriate engineering controls

Replace contaminated clothing immediately Use skin protective lotion. Wash hands and face after using this substance

Personal protective equipment

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**Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

**Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

**Body Protection**

Flame retardant antistatic protective clothing.

**Respiratory protection**

Recommended Filter type: Filter A-(P3)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

**Control of environmental exposure**

Do not let product enter drains. Risk of explosion.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	form: liquid color: Colorless
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	-52°C
f) Initial boiling point and boiling range	178°C
g) Flash point	55 °C
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	1.221-1.223
n) Water solubility	Soluble in water. (1.1 g/L) at 20°C.
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

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## 9.2 Other safety information

no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Violent reactions possible with: Risk of explosion with: Alkali metals Alkaline earth metals Powdered metals sodium amide Oxidizing agents Bases acids

### 10.4 Conditions to avoid

Heating.

### 10.5 Incompatible materials

Aluminum

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity

Acute toxicity estimate Oral - 5,1 mg/kg

(Expert judgment)

Oral: No data available

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract., Stomach/intestinal disorders, Diarrhea

Acute toxicity estimate Inhalation - 4 h - 0,6 mg/l

(Expert judgment)

Symptoms: mucosal irritations, Cough, Shortness of breath, Inhalation may lead to the formation of oedemas in the respiratory tract., Symptoms may be delayed.

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Acute toxicity estimate Dermal - 10 mg/kg

(Expert judgment)

Skin corrosion/irritation

Skin - Rabbit Result: No skin irritation - 4 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Chicken eye Result: No eye irritation - 10 s (OECD Test Guideline 438)

Respiratory or skin sensitisation

Local lymph node assay (LLNA) - Mouse Result: negative (OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Ames test Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test Type: Micronucleus test Test system:

mouse lymphoma cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline

487 Result: negative Test Type: In vitro mammalian cell gene mutation test Test system: mouse lymphoma cells

Metabolic activation: Metabolic activation Method: OECD Test Guideline 490 Result: positive Test Type:

Micronucleus test Species: Mouse Cell type: Bone marrow Application Route: Oral Method: OECD Test Guideline 474

Result: negative

Carcinogenicity

no data available

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

Repeated dose toxicity - Rat - male and female - Oral - NOAEL (No observed adverse effect

level) - 15 mg/kg

RTECS: KN0875000

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea,

Vomiting

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption:

Possible symptoms:

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Nausea

Headache

agitation

Discomfort

Drowsiness

Unconsciousness

CNS disorders

Damage to:

Liver

Kidney

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish semi-static test LC50 - *Oryzias latipes* - > 100 mg/l - 96 h

(OECD Test Guideline 203)

Toxicity to daphnia

and other aquatic

invertebrates

static test LC50 - *Daphnia magna* (Water flea) - 240 mg/l - 48 h

(US-EPA)

Toxicity to algae static test ErC50 - *Pseudokirchneriella subcapitata* - > 79,44 mg/l - 72 h

(OECD Test Guideline 201)

### 12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d Result: 15,7 % - Not inherently biodegradable. (OECD Test Guideline 301D)

### 12.3 Bioaccumulative potential

Bioaccumulation *Lepomis macrochirus* - 28 d at 16 °C - 0,0099 mg/l(bis(2-chloroethyl) ether) Bioconcentration



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factor (BCF): 11

**12.4 Mobility in soil**

no data available

**12.5 Results of PBT and vPvB assessment**

no data available

**12.6 Other adverse effects**

Discharge into the environment must be avoided.

**SECTION 13:****13.1 Disposal considerations**

Product

Dispose of the remaining and non recyclable solution to a licensed company.

Contaminated packaging

Dispose of as unused product.

**SECTION 14: Transport information**

DOT (US)

UN number: 1916

Packing group: II

Class: 6.1 (3)

Proper shipping name: 2,2'-

Reportable Quantity(RQ): no data

Poison Inhalation Hazard: no data

DICHLORODIETHYL ETHER

available

available

Environmental Hazards: no

IMDG

UN number: 1916

Packing group: II

EMS-No: no data available

Proper shipping name: 2,2'-DICHLORODIETHYL ETHER

IATA

UN number: 1916

Packing group: II

Class: 6.1 (3)

Proper shipping name: 2,2'-DICHLORODIETHYL ETHER

**SECTION 15: Regulatory information**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**SECTION 16: Other information**

Prepared By

Regulatory Affairs

ALADDIN SCIENTIFIC CORPORATION

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