

SAFETY DATA SHEET

Version: v1

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

1.1 Product identifiers

Product name : 1,2-Dimethoxyethane
Product Number : D431452
Brand : aladdin
CAS-No. : 110-71-4

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 2), H225

Acute toxicity, Inhalation (Category 4), H332

Skin irritation (Category 2), H315

Reproductive toxicity (Category 1B), H360FD

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

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Hazard statement(s)

H225	Highly Flammable liquid and vapor
H315	Causes skin irritation
H332	Harmful if inhaled
H360	May damage fertility or the unborn child

Precautionary statement(s)

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking.
P202	Do not handle until all safety precautions have been read and understood.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting/.../] equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash hands [and ...] thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower].
P308+P313	IF exposed or concerned: Get medical advice/attention.
P332+P313	IF SKIN irritation occurs: Get medical advice/attention.
P370+P378	In case of fire: Use ... to extinguish.
P405	Store locked up.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to an approved waste disposal plant.
P304+P340+P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor. if you feel unwell.

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

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: Ethylene glycol dimethyl ether, Dimethylglycol, Monoglyme, Degassed and low oxygen 1,2-dimethoxyethane, mono-Glyme, 1,2-Dimethoxyethane ZerO ₂
Formula	: C ₄ H ₁₀ O ₂
Molecular weight	: 90.12
CAS No.	: 110-71-4
EC-NO.	: 203-794-9

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Component	Classification	Concentration
1,2-Dimethoxyethane	Flam. Liq. 2; Acute Tox. 4; Skin Irrit. 2; Repr. 1B; H225, H332, H315, H360FD	anhydrous, inhibitor-free, 99.5%

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

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. Consult a physician.

In case of eye contact

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

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

Carbon oxides Combustible. Pay attention to flashback. Vapors are heavier than air and may spread along floors.

Risk of dust explosion. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

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. 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.

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.

7.3 Specific end use(s)

no data available

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 wash your face after using this substance.

Personal protective equipment

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.

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type ABEK

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	no data available
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	-58°C
f) Initial boiling point and boiling range	84-86°C
g) Flash point	4.5°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	0.867

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n) Water solubility	Soluble in water and hydrocarbons.
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

9.2 Other safety information

no data available

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) . Contains the following stabilizer(s): butyl hydroxytoluene (BHT) (0,01 %)

10.3 Possibility of hazardous reactions

Violent reactions possible with: Strong oxidizing agents Strong acids lithium aluminium hydride strong reducing agents Acid chlorides

10.4 Conditions to avoid

Warming. Moisture.

10.5 Incompatible materials

various plastics, Strong oxidizing agents

10.6 Hazardous decomposition products

Peroxides In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - female - 5.370 mg/kg (OECD Test Guideline 401) Acute toxicity estimate Inhalation - 4 h - 11,1 mg/l (Calculation method) Acute toxicity estimate Inhalation - 11,1 mg/l (Expert judgment) Remarks: (Regulation (EC) No 1272/2008, Annex VI) LD50 Dermal - Rat - female - > 5.000 mg/kg (OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit Result: Irritating to skin. - 24 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

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Eyes - Rabbit Result: No eye irritation - 24 h (OECD Test Guideline 405)

Respiratory or skin sensitisation

Local lymph node assay (LLNA) - Mouse Result: negative (OECD Test Guideline 429) Remarks: The value is given in analogy to the following substances: 1-ethoxy-2-(2-methoxyethoxy)ethane

Germ cell mutagenicity

Not mutagenic in Ames Test. Did not show mutagenic effects in animal experiments. Test Type: unscheduled DNA synthesis assay Test system: Human lymphocytes Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 482 Result: negative 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: sister chromatid exchange assay Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 479 Result: positive Test Type: In

vivo micronucleus test Species: Mouse Cell type: Bone marrow Application Route: Oral Method: OECD Test Guideline 474 Result: negative Test Type: Chromosome aberration test Species: Chinese hamster Cell type: Bone

marrow Application Route: Oral Method: OECD Test Guideline 475 Result: negative

Carcinogenicity

no data available

Reproductive toxicity

May damage the unborn child. May damage fertility.

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

No aspiration toxicity classification

Additional Information

RTECS: K11451000 narcosis, Exposure to and/or consumption of alcohol may increase toxic effects. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish static test LC50 - Danio rerio (zebra fish) - > 5.000 mg/l - 96 h (OECD Test Guideline 203) Remarks:

The value is given in analogy to the following substances: Tegdme Toxicity to daphnia and other aquatic

invertebrates semi-static test EC50 - Daphnia magna (Water flea) - 4.000 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 9.120 mg/l - 72 h (OECD Test

Guideline 201) Toxicity to bacteria static test EC50 - activated sludge - > 6.400 mg/l - 3 h (OECD Test Guideline 209)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 48 d Result: 16 % - According to the results of tests of biodegradability this product is not readily biodegradable. (OECD Test Guideline 302B) Chemical Oxygen Demand (COD) 1.700 mg/g

Remarks: (External MSDS)

12.3 Bioaccumulative potential

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Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

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:

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: 2252

Packing group: II

Class: 3

Proper shipping name: 1,2-DIMETHOXYETHANE

Reportable Quantity(RQ): no data available

Poison Inhalation Hazard: no data available

Environmental Hazards: no

IMDG

UN number: 2252

Packing group: II

EMS-No: no data available

Proper shipping name: 1,2-DIMETHOXYETHANE

IATA

UN number: 2252

Packing group: II

Class: 3

Proper shipping name: 1,2-DIMETHOXYETHANE

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

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