

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 : Diethanolamine
Product Number : D112360
Brand : aladdin
CAS-No. : 111-42-2

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)

Acute toxicity, Oral (Category 4), H302

Skin irritation (Category 2), H315

Serious eye damage (Category 1), H318

Specific target organ toxicity - repeated exposure (Category 2), H373

Long-term (chronic) aquatic hazard (Category 3), H412

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)

H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
H361	Suspected of damaging fertility or the unborn child
H373	Causes damage to organs through prolonged or repeated exposure
H401	Toxic to aquatic life
H412	Harmful to aquatic life with long lasting effects

Precautionary statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands [and ...] thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P310	Immediately call a POISON CENTER or doctor/physician.
P302+P352	IF ON SKIN: wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P332+P313	IF SKIN irritation occurs: Get medical advice/attention.
P402+P404	Store in a dry place. Store in a closed container.
P501	Dispose of contents/container to an approved waste disposal plant.
P301+P312+P330	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

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

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: 2,2'-Iminodiethanol;2,2'-Dihydroxydiethylamine; Bis(2-hydroxyethyl)amine;DEA
Formula	: C ₄ H ₁₁ N ₂ O ₂
Molecular weight	: 105.14
CAS No.	: 111-42-2
EC-NO.	: 203-868-0

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Component	Classification	Concentration
Diethanolamine	Acute Tox. 4; Skin Irrit. 2; Eye Dam. 1; STOT RE 2; Aquatic Chronic 3; H302, AR, ≥99% H315, H318, H373, H412	

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. 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

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx)

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Spray water to suppress gas / vapor / droplets. Prevent fire water from polluting surface and groundwater systems.

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

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

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

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Air and Moisture Sensitive , Fill with argon and store dry.

7.3 Specific end use(s)

no data available

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

Component	CAS No.	Value	Control parameters	Basis
Diethanolamine	111-42-2	TWA	1 mg/m ³	U.S.A. ACGIH threshold limit value (TLV)
	Note	Risk of skin absorption of animal carcinogens unknown to humans		

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		TWA	3 ppm15 mg/m3	U.S.A. NIOSH recommended exposure limits
		TWA	3 ppm15 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		PEL	25 ppm105 mg/m3	Allowable exposure limits for chemical pollutants in California (article 107, paragraph 8)
		Skin		

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

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

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

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 full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	form: liquid or solid color: colorless to yellow or white
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	28°C
f) Initial boiling point and boiling range	217°C
g) Flash point	138 °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	1.096
n) Water solubility	Soluble in water and ethanol, insoluble in ether and benzene.
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

Absorbs carbon dioxide (CO₂) from air. Stable under recommended storage conditions.

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10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Strong heating

10.5 Incompatible materials

Oxidizing agents, Copper, Zinc, Iron

10.6 Hazardous decomposition products

Other decomposition products - No data available Hazardous decomposition products formed under fire conditions.
- Carbon oxides, Nitrogen oxides (NOx) In the event of fire: see section 5

SECTION 11: Toxicological information**11.1 Information on toxicological effects**

Acute toxicity

LD50 Oral - Rat - male and female - 1.600 mg/kg (OECD Test Guideline 401) absorption LD50 Dermal - Rabbit - 8.328 mg/kg Remarks: (RTECS)

Skin corrosion/irritation

Skin - Rabbit Result: irritating (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit Result: Causes serious eye damage. (OECD Test Guideline 405)

Respiratory or skin sensitisation

Maximisation Test - Guinea pig Result: negative (OECD Test Guideline 406)

Germ cell mutagenicity

No data available Ames test Salmonella typhimurium Result: negative (National Toxicology Program) Mutagenicity (mammal cell test): chromosome aberration. Result: negative Ames test Escherichia coli/Salmonella typhimurium Result: negative In vitro mammalian cell gene mutation test Mouse lymphoma test Result: negative OECD Test Guideline 474 Mouse - male and female - Red blood cells (erythrocytes) Result: negative

Carcinogenicity

no data available

Reproductive toxicity

Suspected of causing harm to the fetus. Suspected of causing harm to fertility.

Specific target organ toxicity - single exposure

Acute oral toxicity - Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute inhalation toxicity - Possible damages:, Irritation symptoms in the respiratory tract.

Specific target organ toxicity - repeated exposure

Ingestion - May cause damage to organs through prolonged or repeated exposure. - Kidney, Liver, Blood

Aspiration hazard

no data available

Additional Information

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RTECS: KL2975000 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Systemic effects: Irritation and corrosion, Cough, Nausea, Headache, Dizziness Risk of serious damage to eyes. Possible damages: Kidney, Liver Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice. Liver - Irregularities - Based on Human Evidence

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish static test LC50 - Pimephales promelas (fathead minnow) - 1.460 mg/l - 96 h Remarks: (IUCLID)
Toxicity to daphnia and other aquatic invertebrates static test EC50 - Ceriodaphnia dubia (water flea) - 30,1 mg/l - 48 h Remarks: (ECHA) Toxicity to algae static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 9,7 mg/l - 96 h (US-EPA) Toxicity to bacteria static test EC10 - activated sludge - > 1.000 mg/l - 30 min (OECD Test Guideline 209)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d Result: 93 % - Readily biodegradable. (OECD Test Guideline 301F)
Biochemical Oxygen Demand (BOD) 885 mg/g Remarks: (External MSDS) Chemical Oxygen Demand (COD) 1.352 mg/g Remarks: (External MSDS)

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

Harmful to aquatic life with long lasting effects. Additional ecological information Biological effects: Harmful effect due to pH shift. When discharged properly, no impairments in the function of adapted biological wastewater treatment plants are to be expected. Discharge into the environment must be avoided.

SECTION 13:

13.1 Disposal considerations

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

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UN number: no data available	Packing group: no data available	Class: 9
Proper shipping name: Other hazardous substances	Reportable Quantity(RQ): no data available	Poison Inhalation Hazard: no data available
Environmental Hazards: no		
IMDG		
UN number: no data available	Packing group: no data available	EMS-No: no data available
Proper shipping name: Other hazardous substances		
IATA		
UN number: no data available	Packing group: no data available	Class: 9
Proper shipping name: Other hazardous substances		

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 Email: QualityAssurance@aladdinsci.com
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