SAFETY DATA SHEET

Version: v1
Revision Date: 2023-07-18
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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	: D301793
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 Details of the supplier of the safety data sheet

Company	: Shanghai Aladdin Biochemical Tech Co.,Ltd
Address	: 36 Xinjinqiao Road, Shanghai
Telephone	: 400-620-6333
Fax	: no data available

1.4 Emergency telephone number

Emergency Phone	: 0532-83889090

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, Oral (Category 2), Kidney, Liver, Blood, H373

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

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
H373	Causes damage to organs through prolonged or repeated exposure

Precautionary statement(s)

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.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P330	Rinse mouth.
P301+P312	IF SWALLOWED: call a POISON CENTER/doctor/... IF you feel unwell.
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 i present and easy to do - continue rinsing.
P362+P364	Take off contaminated clothing and wash it before reuse.
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′-Iminodiethanol;2,2'-Dihydroxydiethylamine; Bis(2-hydroxyethyl)amine;DEA;BYC;BASF
Formula	:	C4H11NO2
Molecular weight	:	105.14
CAS No.	:	111-42-2
EC-NO.	:	203-868-0

Component	Classification	Concentration
Diethanolamine		
	no data available	99.3%

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
Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

In case of skin contact
Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

In case of eye contact
Rinse with pure water for at least 15 minutes. Consult a doctor.

If swallowed

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

4.2 Most important symptoms and effects, both acute and delayed

no data available

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 dry chemical, carbon dioxide or alcohol-resistant foam.

Unsuitable extinguishing media
no data available

5.2 Special hazards arising from the substance or mixture

Carbon oxides Nitrogen oxides (NOx) Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours.Avoid contacting with skin and eye. Use personal protective equipment.Wear chemical impermeable gloves. Ensure adequate ventilation.Remove all sources of ignition. Evacuate personnel to safe areas.Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, ventilated warehouse. Sensitive to air and humidity, filled with argon, and stored dry.

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
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
Face shield and safety glasses 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, Flame retardant antistatic protective clothing., 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 particle respirator type N100 (US) or type P3 (EN 143) 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
Do not let product enter drains.

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	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	no data available
n) Water solubility	no data available
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

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

bronze, Copper, Copper alloys, brass, Zinc, zinc alloys

10.6 Hazardous decomposition products

no data available

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)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Symptoms: Possible damages:, Irritation symptoms in the respiratory tract.

Skin corrosion/irritation
Skin - Rabbit Result: irritating (OECD Test Guideline 404) Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Serious eye damage/eye irritation
Eyes - Rabbit Result: Causes serious eye damage. (OECD Test Guideline 405) Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Respiratory or skin sensitisation
Maximization Test - Guinea pig Result: negative (OECD Test Guideline 406)

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: Mutagenicity (mammal cell test): chromosome aberration. Test system: rat hepatocytes Metabolic activation: without metabolic activation Method: OECD Test Guideline 473 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: negative Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: negative Test Type: In vitro mammalian cell gene mutation test Test system: Mouse lymphoma test Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative Test Type: In vivo micronucleus test Species: Mouse Application Route: Dermal Method: OECD Test Guideline 474 Result: negative

Carcinogenicity
no data available

Reproductive toxicity
Suspected of damaging the unborn child. Suspected of damaging fertility.

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
Ingestion - May cause damage to organs through prolonged or repeated exposure. - Kidney, Liver, Blood Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) Dermal - Kidney

Aspiration hazard
no data available

Additional Information

Repeated dose toxicity - Rat - female - Oral - 91 Days - LOAEL (Lowest observed adverse effect level) - 14 mg/kg
Repeated dose toxicity - Rat - male and female - Dermal - 91 Days - LOAEL (Lowest observed adverse effect level) - 32 mg/kg

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 hygien and safety practice. Liver - Irregularities - Based on Human Evidence

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SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish static test LC50 - Oncorhynchus mykiss (rainbow trout) - 460 mg/l - 96 h

Remarks: (ECHA)

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) - 9,5 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

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
Recycle to process, if possible. Consult your local regional authorities and an expert of disposal. You may be able to dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur. Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

UN number: no data available	Packing group: no data available	Class: no data available
Proper shipping name: Not dangerous goods	Reportable Quantity(RQ): no data available	Poison Inhalation Hazard: no data
Environmental Hazards: no		

IMDG

UN number: no data available	Packing group: no data available	EMS-No: no data available
Proper shipping name: Not dangerous goods		

IATA

UN number: no data available	Packing group: no data available	Class: no data available
Proper shipping name: Not dangerous goods		

SECTION 15: Regulatory information

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

SECTION 16: Other information

Further information

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