

ALFAA44759

## 2,2'-(Ethylenedioxy)bis(ethylamine)

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

产品说明:  
Product Description: 2,2'-(亚乙基二氧)双(乙胺)  
2,2'-(Ethylenedioxy)bis(ethylamine)

Cat No. : 44759  
CAS No 929-59-9  
Molecular Formula (CH<sub>2</sub> OCH<sub>2</sub> CH<sub>2</sub> NH<sub>2</sub>)<sub>2</sub>

Supplier Avocado Research Chemicals Ltd.  
(Part of Thermo Fisher Scientific)  
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Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

E-mail address begel.sdsdesk@thermofisher.com

Recommended Use Laboratory chemicals.  
Uses advised against No Information available

### SECTION 2. HAZARD IDENTIFICATION

Physical State  
Liquid

Appearance  
No information available

Odor  
No information available

#### Emergency Overview

Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Hygroscopic.

#### Classification of the substance or mixture

|                                   |              |
|-----------------------------------|--------------|
| Acute Oral Toxicity               | Category 4   |
| Skin Corrosion/Irritation         | Category 1 B |
| Serious Eye Damage/Eye Irritation | Category 1   |
| Skin Sensitization                | Category 1   |

#### Label Elements



Signal Word

Danger

# SAFETY DATA SHEET

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**Hazard Statements**

H302 - Harmful if swallowed  
H314 - Causes severe skin burns and eye damage  
H317 - May cause an allergic skin reaction

**Precautionary Statements****Prevention**

P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P271 - Use only outdoors or in a well-ventilated area  
P272 - Contaminated work clothing should not be allowed out of the workplace

**Response**

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor  
P330 - Rinse mouth  
P331 - Do NOT induce vomiting  
P362 + P364 - Take off contaminated clothing and wash it before reuse

**Storage**

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

**Disposal**

P501 - Dispose of contents/ container to an approved waste disposal plant

**Physical and Chemical Hazards**

Hygroscopic.

**Health Hazards**

Harmful if swallowed. Corrosive. Causes skin and eye burns. May cause an allergic skin reaction.

**Environmental hazards**

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

This product does not contain any known or suspected endocrine disruptors.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

| Component                                     | CAS No   | Weight % |
|---|----------|----------|
| Ethanamine, 2,2'-[1,2-ethanediylbis(oxy)]bis- | 929-59-9 | <=100    |

**SECTION 4. FIRST AID MEASURES****General Advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

**Skin Contact**

Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Call a physician immediately.

**Inhalation**

If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician immediately.

**Ingestion**

Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.

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**Most important symptoms and effects**

Causes burns by all exposure routes. May cause allergic skin reaction. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Self-Protection of the First Aider**

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**Notes to Physician**

Treat symptomatically.

### SECTION 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam.

**Extinguishing media which must not be used for safety reasons**

No information available.

**Specific Hazards Arising from the Chemical**

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions**

Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Environmental Precautions**

Should not be released into the environment. See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up**

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

Refer to protective measures listed in Sections 8 and 13.

### SECTION 7. HANDLING AND STORAGE

**Handling**

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

**Storage**

Corrosives area. Store under an inert atmosphere. Protect from moisture. Keep containers tightly closed in a dry, cool and well-ventilated place.

**Specific Use(s)**

Use in laboratories

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### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control Parameters

#### Exposure Controls

##### Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

##### Personal protective equipment

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments        |
|----------------|-------------------|-----------------|-------------|-----------------------|
| Natural rubber | See manufacturers | -               | EN 374      | (minimum requirement) |
| Nitrile rubber | recommendations   |                 |             |                       |
| Neoprene       |                   |                 |             |                       |
| PVC            |                   |                 |             |                       |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Skin and body protection** Long sleeved clothing

**Respiratory Protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.  
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Large scale/emergency use** Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced  
**Recommended Filter type:** Particulates filter conforming to EN 143 Ammonia and organic ammonia derivatives filter Type K Green conforming to EN14387

**Small scale/Laboratory use** Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.  
**Recommended half mask:-** Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141  
When RPE is used a face piece Fit Test should be conducted

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No information available.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Appearance

**Physical State** Liquid

**Odor** No information available

**Odor Threshold** No data available

## 2,2'-(Ethylenedioxy)bis(ethylamine)

|  |  |  |
|--|--|--|
| <b>pH</b>                                      | No information available   |  |
| <b>Melting Point/Range</b>                     | No data available  |  |
| <b>Softening Point</b>                         | No data available  |  |
| <b>Boiling Point/Range</b>                     | 105 - 109 °C / 221 - 228.2 °F  |  |
| <b>Flash Point</b>                             | 121 °C / 249.8 °F  | <b>Method</b> - No information available |
| <b>Evaporation Rate</b>                        | No data available  |  |
| <b>Flammability (solid,gas)</b>                | Not applicable   | Liquid                                   |
| <b>Explosion Limits</b>                        | No data available  |  |
| <b>Vapor Pressure</b>                          | No data available  |  |
| <b>Vapor Density</b>                           | No data available  | (Air = 1.0)                              |
| <b>Specific Gravity / Density</b>              | 1.01 g/cm3   | @ 20 °C                                  |
| <b>Bulk Density</b>                            | Not applicable   | Liquid                                   |
| <b>Water Solubility</b>                        | No information available   |  |
| <b>Solubility in other solvents</b>            | No information available   |  |
| <b>Partition Coefficient (n-octanol/water)</b> |  |  |
| <b>Component</b>                               | <b>log Pow</b>   |  |
| Ethanamine,                                    | -1.28  |  |
| 2,2'-[1,2-ethanediylbis(oxy)]bis-              |  |  |
| <b>Autoignition Temperature</b>                | No data available  |  |
| <b>Decomposition Temperature</b>               | No data available  |  |
| <b>Viscosity</b>                               | No data available  |  |
| <b>Explosive Properties</b>                    | No information available   |  |
| <b>Oxidizing Properties</b>                    | No information available   |  |
| <b>Molecular Formula</b>                       | (CH <sub>2</sub> OCH <sub>2</sub> CH <sub>2</sub> NH <sub>2</sub> ) <sub>2</sub> |  |
| <b>Molecular Weight</b>                        | 148.20   |  |

## SECTION 10. STABILITY AND REACTIVITY

|   |                                   |
|---|-----------------------------------|
| <b>Stability</b>                        | Hygroscopic.                      |
| <b>Hazardous Reactions</b>              | None under normal processing.     |
| <b>Hazardous Polymerization</b>         | No information available.         |
| <b>Conditions to Avoid</b>              | Exposure to moist air or water.   |
| <b>Materials to avoid</b>               | No information available.         |
| <b>Hazardous Decomposition Products</b> | None under normal use conditions. |

## SECTION 11. TOXICOLOGICAL INFORMATION

## Product Information

## (a) acute toxicity;

| Component  | LD50 Oral | LD50 Dermal               | LC50 Inhalation |
|--|-----------|---------------------------|-----------------|
| Ethanamine,<br>2,2'-[1,2-ethanediylbis(oxy)]bis- |           | LD50 >= 8 g/kg ( Rabbit ) |                 |

(b) skin corrosion/irritation; Category 1 B

(c) serious eye damage/irritation; Category 1

## (d) respiratory or skin sensitization;

|                    |                   |
|--------------------|-------------------|
| <b>Respiratory</b> | No data available |
| <b>Skin</b>        | Category 1        |

**SAFETY DATA SHEET**  
**2,2'-(Ethylenedioxy)bis(ethylamine)**

May cause sensitization by skin contact

**(e) germ cell mutagenicity;**

No data available

**(f) carcinogenicity;**

No data available

There are no known carcinogenic chemicals in this product

**(g) reproductive toxicity;**

No data available

**(h) STOT-single exposure;**

No data available

**(i) STOT-repeated exposure;**

No data available

**Target Organs**

No information available.

**(j) aspiration hazard;**

No data available

**Symptoms / effects, both acute and delayed**

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity effects**

Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

**Persistence and Degradability**

No information available

**Bioaccumulative Potential**

No information available

| Component  | log Pow | Bioconcentration factor (BCF) |
|--|---------|-------------------------------|
| Ethanamine,<br>2,2'-[1,2-ethanediylbis(oxy)]bis- | -1.28   | No data available             |

**Mobility in soil**

No information available

**Endocrine Disruptor Information  
Persistent Organic Pollutant  
Ozone Depletion Potential**

This product does not contain any known or suspected endocrine disruptors  
This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

**SECTION 13. DISPOSAL CONSIDERATIONS****Waste from Residues/Unused Products**

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

**Contaminated Packaging**

Dispose of this container to hazardous or special waste collection point.

**Other Information**

Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not flush to sewer. Large amounts will affect pH

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## 2,2'-(Ethylenedioxy)bis(ethylamine)

and harm aquatic organisms.

### SECTION 14. TRANSPORT INFORMATION

#### Road and Rail Transport

UN-No UN2735  
Proper Shipping Name AMINES, LIQUID, CORROSIVE, N.O.S.  
Technical Shipping Name (2,2'-(Ethylenedioxy)bis(ethylamine))  
Hazard Class 8  
Packing Group III

#### IMDG/IMO

UN-No UN2735  
Proper Shipping Name AMINES, LIQUID, CORROSIVE, N.O.S.  
Technical Shipping Name (2,2'-(Ethylenedioxy)bis(ethylamine))  
Hazard Class 8  
Packing Group III

#### IATA

UN-No UN2735  
Proper Shipping Name AMINES, LIQUID, CORROSIVE, N.O.S.  
Technical Shipping Name (2,2'-(Ethylenedioxy)bis(ethylamine))  
Hazard Class 8  
Packing Group III

Special Precautions for User No special precautions required

### SECTION 15. REGULATORY INFORMATION

#### International Inventories

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

| Component                                     | The Inventory of Hazardous Chemicals (2015 Edition) | List of dangerous goods GB 12268 - 2012 | TCSI | IECSC | EINECS    | TSCA | DSL | PICCS | ENCS | ISHL | AICS | KECL     |
|---|---|---|------|-------|-----------|------|-----|-------|------|------|------|----------|
| Ethanamine, 2,2'-[1,2-ethanediy]bis(oxy))bis- | -   | -                                       | X    | X     | 213-203-6 | X    | -   | X     | X    | X    | X    | KE-13200 |

#### National Regulations

### SECTION 16. OTHER INFORMATION

Prepared By Health, Safety and Environmental Department  
Revision Date 02-May-2024  
Revision Summary New emergency telephone response service provider.

#### Training Advice

## 2,2'-(Ethylenedioxy)bis(ethylamine)

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**PNEC** - Predicted No Effect Concentration

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

**Key literature references and sources for data**

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**