

Australian statement of hazardous nature : Classified as hazardous according to criteria of Safe Work Australia

Section 1 - Identification

Product Name Diethylacetic acid

CAS No 88-09-5

Synonyms 2-Ethyl butanoic acid; Acetic acid, diethyl-; Diethylacetic acid

Product Code **L07427**

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Emergency Tel. **CHEMTREC®**
03 9757 4559 or +613 9757 4559

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Recommended Use Laboratory chemicals.

Uses advised against This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list. This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction. This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern.

Section 2 - Hazard(s) Identification

Classification under Safe Work Australia

Classified as hazardous according to criteria of Safe Work Australia

Physical hazards
No hazards identified

Health hazards

Acute Dermal Toxicity
Skin Corrosion/Irritation
Serious Eye Damage/Eye Irritation

Category 4
Category 1 B
Category 1

Environmental hazards
No hazards identified

Label Elements



Exclamation Mark



Corrosion

Signal Word**Danger****Hazard Statements**

H312 - Harmful in contact with skin

H314 - Causes severe skin burns and eye damage

Combustible liquid

Precautionary Statements

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

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

P363 - Wash contaminated clothing before reuse

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

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

P403 + P235 - Store in a well-ventilated place. Keep cool

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

Other information

Toxic to terrestrial vertebrates

Section 3 - Composition and Information on Ingredients

| Component | CAS No | Weight % |
|---------------------|---------|----------|
| 2-Ethylbutyric acid | 88-09-5 | 99 |

Section 4 - First Aid Measures**Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. 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. Immediate medical attention is required.

Ingestion

Do NOT induce vomiting. Call a physician or poison control center immediately.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. 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.

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.

First Aid Facilities

Eyewash, safety shower and washroom.

Most important symptoms and effects

Difficulty in breathing. Causes burns by all exposure routes. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: 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

Notes to Physician

Treat symptomatically.

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media

Carbon dioxide (CO₂). Dry chemical. Chemical foam. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons

No information available.

Hazardous Decomposition Products

Carbon monoxide (CO), Carbon dioxide (CO₂).

Specific Hazards Arising from the Chemical

Combustible material. Containers may explode when heated.

Special protective equipment and precautions for fire fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 - Accidental Release Measures

Emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions

Prevent further leakage or spillage if safe to do so.

Methods for Containment and Clean Up**Clean-up methods - small spillage**

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Do not let this chemical enter the environment. Remove all sources of ignition.

Clean-up methods - large spillage

Typically only supplied in small quantities as packaged goods.

If extremely toxic or used in larger quantities ensure a spillage action plan is in place. Evacuate area. Control the source and/or contain the spill if safe and able to do so. Use temporary diking, sand bags, dry sand, earth or proprietary booms/absorbent pads if available. Obtain advice on containment, neutralisation and clean-up from local emergency responders.

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

Section 7 - Handling and Storage

Precautions for Safe Handling

Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Remove all sources of ignition. Minimize dust generation and accumulation. Keep away from open flames, hot surfaces and sources of ignition.

Conditions for Safe Storage, Including any Incompatibilities

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

AS 1940-2004 - The storage and handling of flammable and combustible liquids

Section 8 - Exposure Controls and Personal Protection

Exposure limits

The product does not contain any hazardous materials with occupational exposure limits established.

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Exposure Controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas. 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 (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection

Protective gloves

| Glove material | Breakthrough time | Glove thickness | AUS/NZ Standard | Glove comments |
|----------------|-------------------|-----------------|-----------------|-----------------------|
| Natural rubber | See manufacturers | - | AS/NZS 2161 | (minimum requirement) |
| Butyl rubber | recommendations | | | |
| Nitrile rubber | | | | |
| 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

Wear appropriate protective gloves and clothing to prevent skin exposure

Respiratory Protection

Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices

Recommended Filter type:

Particulates filter conforming to EN 143 Acid gases filter Type E Yellow conforming to EN14387 (or AUS/NZ equivalent)

Recommended half mask:-

Valve filtering: EN405 or Half mask: EN140 plus filter, EN 141 (or AUS/NZ equivalent)
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

Information on basic physical and chemical properties

| | | |
|---|--------------------------------|--|
| Appearance | Clear | |
| Physical State | Liquid | |
| Odor | pungent | |
| Odor Threshold | No data available | |
| pH | 3 | 18g/L aq sol 20°C |
| Melting Point/Range | -14 °C / 6.8 °F | |
| Softening Point | No data available | |
| Boiling Point/Range | 99 - 101 °C / 210.2 - 213.8 °F | @ 18 mmHg |
| Flash Point | 87 °C / 188.6 °F | Method - No information available |
| Evaporation Rate | No data available | |
| Flammability (solid,gas) | Not applicable | Liquid |
| Explosion Limits | Lower 1.4 | |
| Vapor Pressure | 0.2 hPa @ 20 °C | |
| Vapor Density | 4.00 | (Air = 1.0) |
| Specific Gravity / Density | 0.920 | |
| Bulk Density | Not applicable | Liquid |
| Water Solubility | 18 g/L (20°C) | |
| Solubility in other solvents | No information available | |
| Partition Coefficient (n-octanol/water) | | |
| Autoignition Temperature | 345 °C / 653 °F | |
| Decomposition Temperature | No data available | |
| Viscosity | 3.3 mPa s at 20 °C | |
| Explosive Properties | | explosive air/vapour mixtures possible |
| Oxidizing Properties | No information available | |
| Other information | | |
| Molecular Formula | C6 H12 O2 | |
| Molecular Weight | 116.16 | |

Section 10 - Stability and Reactivity

| | |
|----------------------------------|--|
| Reactivity | None known, based on information available |
| Stability | Stable under normal conditions. |
| Conditions to Avoid | Incompatible products, Keep away from open flames, hot surfaces and sources of ignition. |
| Incompatible Materials | Bases, Reducing Agent. |
| Hazardous Decomposition Products | Carbon monoxide (CO). Carbon dioxide (CO ₂). |
| Hazardous Polymerization | Hazardous polymerization does not occur. |

Section 11 - Toxicological Information

Information on Toxicological Effects

Product Information

(a) acute toxicity;

Oral

Based on available data, the classification criteria are not met

Dermal

Category 4

Inhalation

Based on available data, the classification criteria are not met

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---------------------|---------------------------|-------------|-----------------|
| 2-Ethylbutyric acid | LD50 = 2200 mg/kg (Rat) | | |

(b) skin corrosion/irritation;

Category 1 B

(c) serious eye damage/irritation;

Category 1

(d) respiratory or skin sensitization;

Respiratory

No data available

Skin

No data available

(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

Other Adverse Effects

The toxicological properties have not been fully investigated.

Symptoms / effects, both acute and delayed

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: 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

Section 12 - Ecological Information

Ecotoxicity effects

Do not empty into drains. .

Persistence and Degradability

Persistence

Soluble in water, Persistence is unlikely, based on information available.

Bioaccumulative Potential

Bioaccumulation is unlikely

Mobility

The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility Highly mobile in soils

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant

This product does not contain any known or suspected substance

Ozone Depletion Potential

This product does not contain any known or suspected substance

Section 13 - Disposal Considerations

Waste from Residues/Unused

Do not allow into drains or watercourses or dispose of where ground or surface waters may

| | |
|-------------------------------|--|
| Products | be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations. |
| Contaminated Packaging | Dispose of this container to hazardous or special waste collection point. |
| Other Information | Chemical wastes should be disposed through a licensed commercial waste collection service. 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 and harm aquatic organisms. |

Section 14 - Transport Information

IMDG/IMO

| | |
|--------------------------------|---------------------------------|
| UN-No | UN2922 |
| Proper Shipping Name | Corrosive liquid, toxic, n.o.s. |
| Hazard Class | 8 |
| Subsidiary Hazard Class | 6.1 |
| Packing Group | II |

ADG

| | |
|--------------------------------|---------------------------------|
| UN-No | UN2922 |
| Proper Shipping Name | Corrosive liquid, toxic, n.o.s. |
| Hazard Class | 8 |
| Subsidiary Hazard Class | 6.1 |
| Packing Group | II |

IATA

| | |
|--------------------------------|---------------------------------|
| UN-No | UN2922 |
| Proper Shipping Name | Corrosive liquid, toxic, n.o.s. |
| Hazard Class | 8 |
| Subsidiary Hazard Class | 6.1 |
| Packing Group | II |

| | |
|-------------------------------|---------------------------------|
| Environmental hazards | No hazards identified |
| Special Precautions | No special precautions required |
| Additional information | None known |

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

National Regulations **Australia**

See section 8 for national exposure control parameters.

Standard for the Uniform Scheduling of Medicines and Poisons
No poison schedule number allocated.

Australian Industrial Chemicals Introduction Scheme (AICIS)

| Component | Australian Industrial Chemicals Introduction Scheme (AICIS) | Additional information |
|-------------------------------|---|------------------------|
| 2-Ethylbutyric acid - 88-09-5 | Present | - |

Australian - Illicit Drug Precursors/Reagents Substance List

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

Chemicals of Security Concern

This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern

National pollutant inventory Not applicable

Prohibition or notification/licensing requirements

Shown below are details of specific prohibition/notifications or licensing requirements when they apply.

This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction.

International Inventories

| Component | AICS | NZIoC | EINECS | ELINCS | TSCA | DSL | NDSL | PICCS | ENCS | ISHL | IECSC | KECL |
|---------------------|------|-------|-----------|--------|------|-----|------|-------|------|------|-------|----------|
| 2-Ethylbutyric acid | X | X | 201-796-4 | - | X | X | - | X | X | X | X | KE-10382 |

Legend: X - Listed. '-' - Not Listed. **KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

International Regulations

Ozone Depletion Potential This product does not contain any known or suspected substance

Persistent Organic Pollutant This product does not contain any known or suspected substance

Rotterdam Convention (PIC) Not applicable

Basel convention on the control of transboundary movements of hazardous wastes and their disposal

Not applicable.

| Component | CAS No | OECD HPV | Restriction of Hazardous Substances (RoHS) | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements |
|---------------------|---------|----------------|--|---|--|
| 2-Ethylbutyric acid | 88-09-5 | Not applicable | Not applicable | Not applicable | Not applicable |

Authorisation/Restrictions according to EU REACH Not applicable

Section 16 - Other Information

Legend

| | |
|--|--|
| AICS - Australian Inventory of Chemical Substances | NZIoC - New Zealand Inventory of Chemicals |
| TSCA - United States Toxic Substances Control Act Section 8(b) Inventory | EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances |
| DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List | ENCS - Japanese Existing and New Chemical Substances |
| IECSC - Chinese Inventory of Existing Chemical Substances | KECL - Korean Existing and Evaluated Chemical Substances |
| PICCS - Philippines Inventory of Chemicals and Chemical Substances | CAS - Chemical Abstracts Service |
| TWA - Time Weighted Average | ACGIH - American Conference of Governmental Industrial Hygienists |
| IARC - International Agency for Research on Cancer | Predicted No Effect Concentration (PNEC) |
| ICAO/IATA - International Civil Aviation Organization/International Air Transport Association | IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code |
| MARPOL - International Convention for the Prevention of Pollution from Ships | ADG Australian Code for the Transport of Dangerous Goods by Road and Rail |
| NZS 5433:2012 - Transport of Dangerous Goods on Land | OECD - Organisation for Economic Co-operation and Development |
| LD50 - Lethal Dose 50% | LC50 - Lethal Concentration 50% |
| EC50 - Effective Concentration 50% | ATE - Acute Toxicity Estimate |
| WEL - Workplace Exposure Limit | RPE - Respiratory Protective Equipment |
| DNEL - Derived No Effect Level | NOEC - No Observed Effect Concentration |
| POW - Partition coefficient Octanol:Water | BCF - Bioconcentration factor |
| vPvB - very Persistent, very Bioaccumulative | PBT - Persistent, Bioaccumulative, Toxic |
| VOC - (Volatile Organic Compound) | |

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>
Suppliers safety data sheet, Chemadviser - LOLI, Merck index, RTECS

Training Advice

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.

| | |
|-------------------------|-----------------|
| Revision Date | 18-Nov-2022 |
| Revision Summary | Not applicable. |

This Safety Data Sheet (SDS) is prepared in accordance to and complies with the requirements of Safe Work Australia - Work Health and Safety Regulations (WHS Regulations).

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