

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

## Section 1 - Identification

**Product Name** 2,3-Dihydro-1,4-benzodioxine-5-carboxylic acid  
**CAS No** 4442-53-9

**Product Code** CC01401FL; CC01401SC  
**Address** ThermoFisher Scientific Australia Pty Ltd  
 5 Caribbean Drive, Scoresby  
 VICTORIA 3179, Australia  
**Emergency Tel.** CHEMTREC®  
 03 9757 4559 or +613 9757 4559  
**Telephone / Fax Numbers** Tel: 1300 735 292  
 Fax: 1800 067 639  
**E-mail address** ANZinfo@thermofisher.com

**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**

Skin Corrosion/Irritation  
 Serious Eye Damage/Eye Irritation  
 Specific target organ toxicity - (single exposure)

Category 2  
 Category 2  
 Category 3

**Environmental hazards**  
 No hazards identified

### Label Elements



Exclamation Mark

**Signal Word**

**Warning**

**Hazard Statements**

H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H335 - May cause respiratory irritation

**Precautionary Statements**

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P271 - Use only outdoors or in a well-ventilated area  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
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  
P312 - Call a POISON CENTER or doctor if you feel unwell  
P362 + P364 - Take off contaminated clothing and wash it before reuse  
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
P501 - Dispose of contents/ container to an approved waste disposal plant

**Other information**

No information available

## Section 3 - Composition and Information on Ingredients

| Component                                     | CAS No    | Weight % |
|---|-----------|----------|
| 2,3-Dihydro-1,4-benzodioxin-5-carboxylic acid | 4442-53-9 | >95      |

## Section 4 - First Aid Measures

|  |  |
|--|--|
| <b>Inhalation</b>                          | Remove to fresh air. Get medical attention immediately if symptoms occur. If not breathing, give artificial respiration.                         |
| <b>Ingestion</b>                           | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.  |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.                                      |
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.                                  |
| <b>Self-Protection of the First Aider</b>  | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. |
| <b>First Aid Facilities</b>                | Eyewash, safety shower and washroom.   |
| <b>Most important symptoms and effects</b> | No information available.  |
| <b>Notes to Physician</b>                  | Treat symptomatically.   |

## Section 5 - Fire Fighting Measures

**Suitable Extinguishing Media**

Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam.

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

No information available.

**Hazardous Decomposition Products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

**Specific Hazards Arising from the Chemical**

Thermal decomposition can lead to release of irritating gases and vapors.

**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. Thermal decomposition can lead to release of irritating gases and vapors.

## Section 6 - Accidental Release Measures

**Emergency procedures**

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

**Environmental Precautions**

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

**Methods for Containment and Clean Up**

**Clean-up methods - small spillage**

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

**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**

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

**Conditions for Safe Storage, Including any Incompatibilities**

Keep containers tightly closed in a dry, cool and well-ventilated place.

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

## 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 that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

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 compatability, 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 (or AUS/NZ equivalent)

**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****Physical State**

Solid

**Odor**

No information available

**Odor Threshold**

No data available

**pH**

No information available

**Melting Point/Range**

90 - 94 °C / 194 - 201.2 °F

**Softening Point**

No data available

**Boiling Point/Range**

No information available

**Flash Point**

No information available

**Method -** No information available

**Evaporation Rate**

Not applicable

Solid

**Flammability (solid,gas)**

No information available

**Explosion Limits**

No data available

|   |                          |       |
|---|--------------------------|-------|
| Vapor Pressure                          | No data available        |       |
| Vapor Density                           | Not applicable           | Solid |
| Specific Gravity / Density              | No data available        |       |
| Bulk Density                            | No data available        |       |
| Water Solubility                        | No information available |       |
| Solubility in other solvents            | No information available |       |
| Partition Coefficient (n-octanol/water) |                          |       |
| Autoignition Temperature                | No data available        |       |
| Decomposition Temperature               | No data available        |       |
| Viscosity                               | Not applicable           | Solid |
| Explosive Properties                    | No information available |       |
| Oxidizing Properties                    | No information available |       |

**Other information**

|                   |          |
|-------------------|----------|
| Molecular Formula | C9 H8 O4 |
| Molecular Weight  | 180.16   |

## Section 10 - Stability and Reactivity

|                                  |   |
|----------------------------------|---|
| Reactivity                       | None known, based on information available                |
| Stability                        | Stable under normal conditions.                           |
| Conditions to Avoid              | Incompatible products, Excess heat, Avoid dust formation. |
| Incompatible Materials           | Strong oxidizing agents, Strong bases.                    |
| Hazardous Decomposition Products | Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ).  |
| Hazardous Polymerization         | No information available.                                 |

## Section 11 - Toxicological Information

**Information on Toxicological Effects**

|  |   |
|--|---|
| Product Information                    | No acute toxicity information is available for this product |
| (a) acute toxicity;                    |   |
| Oral                                   | No data available   |
| Dermal                                 | No data available   |
| Inhalation                             | No data available   |
| (b) skin corrosion/irritation;         | Category 2  |
| (c) serious eye damage/irritation;     | Category 2  |
| (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;                  | Category 3   |
| Results / Target organs                    | Respiratory system   |
| (i) STOT-repeated exposure;                | No data available  |
| Target Organs                              | No information available.                                      |
| (j) aspiration hazard;                     | Not applicable<br>Solid  |
| Other Adverse Effects                      | The toxicological properties have not been fully investigated. |
| Symptoms / effects, both acute and delayed | No information available                                       |

## Section 12 - Ecological Information

|                                 |   |
|---------------------------------|---|
| Ecotoxicity effects             | Do not empty into drains.   |
| Persistence and Degradability   | No information available  |
| Bioaccumulative Potential       | No information available  |
| Mobility                        | No information available.   |
| 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 Products | Do not allow into drains or watercourses or dispose of where ground or surface waters may 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.   |

## Section 14 - Transport Information

|                       |                                 |
|-----------------------|---------------------------------|
| <u>IMDG/IMO</u>       | Not regulated                   |
| <u>ADG</u>            | Not regulated                   |
| <u>IATA</u>           | Not regulated                   |
| 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 - 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 |
|--|------|-------|-----------|--------|------|-----|------|-------|------|------|-------|------|
| 2,3-Dihydro-1,4-benzo<br>dioxin-5-carboxylic<br>acid | -    | -     | 224-670-0 | -      | -    | -   | -    | -     | -    |      | -     | -    |

**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 |
|---|-----------|----------------|--|---|--|
| 2,3-Dihydro-1,4-benzodioxin-5-carboxylic acid | 4442-53-9 | Not applicable | Not applicable                             | Not applicable  | Not applicable   |

Authorisation/Restrictions according to EU REACH

Not applicable

## Section 16 - Other Information

### Legend

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

### 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** 21-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,



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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**