# SAFETY DATA SHEET

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

## Section 1 - Identification

| | |
|---|---|
| **Product Name** | **Linoleic acid** |
| **CAS No** | 60-33-3 |
| **Synonyms** | (Z,Z)-9,12-Octadecadienoic acid; Linolic acid |

| | |
|---|---|
| **Product Code** | **TOKL0053** |
| **Address** | ThermoFisher Scientific Australia Pty Ltd<br>5 Caribbean Drive, Scoresby<br>VICTORIA 3179, Australia |
| **Emergency Tel.** | **CHEMTREC®**<br>**03 9757 4559 or +613 9757 4559** |
| **Telephone / Fax Numbers** | Tel: 1300 735 292<br>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 | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 2 |
| Specific target organ toxicity - (single exposure) | Category 3 |

**Environmental hazards**
No hazards identified

**Label Elements** None required

Exclamation Mark

**Signal Word** **Warning**

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

P403 - Store in a well-ventilated place
P501 - Dispose of contents/ container to an approved waste disposal plant

**Other information**
This product does not contain any known or suspected endocrine disruptors

# Section 3 - Composition and Information on Ingredients

| Component | CAS No | Weight % |
|---|---|---|
| Linoleic acid | 60-33-3 | >95 |

# Section 4 - First Aid Measures

**Inhalation** Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**General Advice** If symptoms persist, call a physician.

**Self-Protection of the First Aider** No special precautions required.

**First Aid Facilities** Eyewash, safety shower and washroom.

**Most important symptoms and effects** None reasonably foreseeable.

**Notes to Physician** Treat symptomatically.

# Section 5 - Fire Fighting Measures

**Suitable Extinguishing Media**
Water spray, carbon dioxide (CO2), 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 ($CO_2$).

**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.

# Section 6 - Accidental Release Measures

**Emergency procedures**
Ensure adequate ventilation. Use personal protective equipment as required.

**Environmental Precautions**
Should not be released into the environment.

**Methods for Containment and Clean Up**

**Clean-up methods - small spillage**
Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

**Clean-up methods - large spillage**
Typically only supplied is small quantiites 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. Avoid ingestion and inhalation. Do not get in eyes, on skin, or on clothing.

**Conditions for Safe Storage, Including any Incompatibilities**
Keep container tightly closed in a dry and well-ventilated place. Protect from direct sunlight. Keep under nitrogen. To maintain product quality: Keep refrigerated.

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 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<br>Butyl rubber<br>Nitrile rubber<br>Neoprene<br>PVC | See manufacturers recommendations | - | AS/NZS 2161 | (minimum requirement) |

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** Long sleeved clothing

**Repiratory 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 repiratory 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** | Clear | |
| **Physical State** | Liquid | |
| **Odor** | No information available | |
| **Odor Threshold** | No data available | |
| **pH** | Not applicable | |
| **Melting Point/Range** | -5 °C / 23 °F | |
| **Softening Point** | No data available | |
| **Boiling Point/Range** | 229 - 230 °C / 444.2 - 446 °F | @ 16 mmHg |
| **Flash Point** | > 112 °C / > 233.6 °F | **Method -** No information available |
| **Evaporation Rate** | No data available | |
| **Flammability (solid,gas)** | Not applicable | Liquid |
| **Explosion Limits** | No data available | |
| **Vapor Pressure** | No data available | |
| **Vapor Density** | No data available | (Air = 1.0) |

| | | |
|---|---|---|
| **Specific Gravity / Density** | 0.900 | |
| **Bulk Density** | Not applicable | Liquid |
| **Water Solubility** | Insoluble | |
| **Solubility in other solvents** | No information available | |
| **Partition Coefficient (n-octanol/water)** | | |
| **Autoignition Temperature** | No data available | |
| **Decomposition Temperature** | No data available | |
| **Viscosity** | No data available | |
| **Explosive Properties** | No information available | |
| **Oxidizing Properties** | No information available | |

**Other information**

| | |
|---|---|
| **Molecular Formula** | C18 H32 O2 |
| **Molecular Weight** | 280.45 |

## Section 10 - Stability and Reactivity

**Reactivity** None known, based on information available

**Stability** Air sensitive.

**Conditions to Avoid** Excess heat, Exposure to air, Exposure to light, Incompatible products.

**Incompatible Materials** Bases, Strong oxidizing agents, 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** 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;** No data available

**(c) serious eye damage/irritation;** No data available

**(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;** | No data available |
| **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** | |
| **Persistence** | Insoluble in water, May persist, based on information available. |
| **Bioaccumulative Potential** | May have some potential to bioaccumulate |
| **Mobility** | Spillage unlikely to penetrate soil. The product is insoluble and floats on water. The product evaporates slowly. Is not likely mobile in the environment due its low water solubility<br>Spillage unlikely to penetrate soil |
| **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

| | |
|---|---|
| **IMDG/IMO** | Not regulated |
| **ADG** | Not regulated |
| **IATA** | 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 Industrial Chemicals Introduction Scheme (AICIS)**

| Component | Australian Industrial Chemicals Introduction Scheme (AICIS) | Additional information |
|---|---|---|
| Linoleic acid - 60-33-3 | 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 licencing 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Linoleic acid | X | X | 200-470-9 | - | X | X | - | X | X | X | X | KE-26285 |

**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 dispoal**
Take note that wastes may be subject to export, import, or transit controls pursuant to the Basel convention and/or local regulations implementing the Basel convention.

| Component | Basel Convention (Hazardous Waste) | Australian Hazardous Waste Act - Categories of Wastes to Be Controlled |
|---|---|---|
| Linoleic acid - 60-33-3 | Annex I - Y34 | Y34 solid or solution |

| 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 |
|---|---|---|---|---|---|
| Linoleic acid | 60-33-3 | Listed | 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
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**IECSC** - Chinese Inventory of Existing Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**TWA** - Time Weighted Average
**IARC** - International Agency for Research on Cancer
**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association
**MARPOL** - International Convention for the Prevention of Pollution from Ships
**NZS 5433:2020** - Transport of Dangerous Goods on Land
**LD50** - Lethal Dose 50%
**EC50** - Effective Concentration 50%
**WEL** - Workplace Exposure Limit
**DNEL** - Derived No Effect Level
**POW** - Partition coefficient Octanol:Water
**vPvB** - very Persistent, very Bioaccumulative
**VOC** - (Volatile Organic Compound)

**NZIoC** - New Zealand Inventory of Chemicals
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
**ENCS** - Japanese Existing and New Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances
**CAS** - Chemical Abstracts Service
**ACGIH** - American Conference of Governmental Industrial Hygienists Predicted No Effect Concentration (PNEC)
**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code
**ADG** - Australian Code for the Transport of Dangerous Goods by Road and Rail
**OECD** - Organisation for Economic Co-operation and Development
**LC50** - Lethal Concentration 50%
**ATE** - Acute Toxicity Estimate
**RPE** - Respiratory Protective Equipment
**NOEC** - No Observed Effect Concentration
**BCF** - Bioconcentration factor
**PBT** - Persistent, Bioaccumulative, Toxic

**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** 12-Mar-2025
**Revision Summary** Update to GHS format.

**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