SAFETY DATA SHEET
LINSEED OIL
REVISION 5, DATE 07 DEC 2021

1. IDENTIFICATION

Product Name	**Linseed Oil**
Other Names	Flaxseed oil; Linseed oil, acid refined; Linseed oil, double boiled; Linseed oil, oxidized [CAS#68649-95-6]; Linseed oil, raw
Uses	Linoleum, paint industry, printing inks, coating wood treatment products, resins, putties, adhesives, sealants; Stock/animal feed.
Chemical Family	No Data Available
Chemical Formula	Unspecified
Chemical Name	Linseed oil
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Suite 13A.03, Menara Summit Persiaran Kewajipan USJ1 47600 UEP Subang Jaya Selangor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Australia – Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
National Poison Centre	Malaysia	+60-4-6536-999
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)	Not Scheduled

Globally Harmonised System

Hazard Classification	NOT hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)
Signal Word	None

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Safe Work Australia

National Guide for Classifying Hazardous Chemicals under the Model WHS Regulations

Hazard Classification	NOT hazardous according to the criteria of Safe Work Australia under Model WHS Regulations

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Linseed oil	Unspecified	8001-26-1	<=100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then drink a glass of water. Do not induce vomiting. Get medical advice/attention if you feel unwell. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Never give anything by mouth to an unconscious person.
Eye	IF IN EYES: Immediately flush eyes with running water for at least 15 minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention. *Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin	IF ON SKIN: Remove and isolate contaminated clothing and shoes. Wash skin with plenty of soap and running water/shower. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
Advice to Doctor	Symptomatic treatment is advised. No typical symptoms and effects known.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	Alert Fire Brigade and tell them location and nature of hazard. If safe to do so, move undamaged containers from fire area. Do not approach containers suspected to be hot. Cool containers with water spray until well after fire is out. Avoid spraying water onto liquid pools.
Flammability Conditions	Combustible liquid; may burn but does not ignite readily. Slight hazard when exposed to heat, flame and oxidisers. *Contact with high pressure oxygen may cause ignition/combustion.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO2) or foam for extinction. Do not use a solid water stream as it may scatter and spread fire. Use water spray or fog for large fires only.
Fire and Explosion Hazard	Although anti-oxidants may be present in the original formulation, these may deplete over time as they come into contact with air. Rags wet/soaked with unsaturated hydrocarbons/drying oils may auto-oxidise; generate heat and, in-time, smoulder and ignite. This is especially the case where oil-soaked materials are folded, bunched, compressed or piled together - this allows the heat to accumulate or even accelerate the reaction.
Hazardous Products of Combustion	On combustion, emits toxic fumes of Carbon monoxide (CO2), acrolein.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may cause pollution.
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.
Flash Point	>=222 °C
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	>300 - 343 °C
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. ELIMINATE all ignition sources. Do not touch or walk through spilled material - Slippery when spilt. Clean up all spills immediately! Avoid breathing vapours and contact with eyes, skin and clothing.
Clean Up Procedures	Wipe up or absorb with sand or other non-combustible absorbent material and place into containers for later disposal (see SECTION 13). *Oily cleaning rags should be collected regularly and immersed in water/solvents in suitably closed containers, or spread to dry in a safe-place away from direct sunlight.
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Some oils slowly oxidise when spread in a film; Contain spill with sand, earth or vermiculite - keep moist to prevent self-ignition. *Linseed oil is a drying oil, which, if left over a few days, will form a hard film.
Decontamination	Clean contaminated objects and areas thoroughly observing environmental regulations.
Environmental Precautionary Measures	Prevent spillage from entering drains or watercourses. If contamination of drains or waterways occurs, advise emergency services.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing mist/vapours and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). WARNING! Mists containing combustible materials may be explosive. HOT product absorbed on porous material (e.g. sawdust, clothes or insulating material) can ignite spontaneously. Avoid extreme high temperatures and sources of ignition - No smoking.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep containers securely sealed when not in use. Protect containers against physical damage and check regularly for leaks. Keep away from heat and sources of ignition - No smoking. Keep away from foodstuffs and incompatible materials (see SECTION 10).

Container	Keep in the original container or packaging as recommended by manufacturer. Do NOT use aluminium or galvanised containers. Check all containers are clearly labelled and free from leaks.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. For vegetable oil mists: - Safe Work Australia Exposure Standard: TWA = 10 mg/m3. - New Zealand Workplace exposure standard: TWA = 10 mg/m3.
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal Protection Equipment	- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Organic vapour/particulate (Type A-P Filter) respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses with side shields or Chemical goggles, as required. - Hand protection: Handle with gloves. Recommended: Wear chemical protective gloves, e.g. PVC. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls, PVC apron, Barrier cream; Wear safety footwear or safety gumboots, e.g. Rubber.
Special Hazards Precaustions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Always wash hands with soap and water after handling. Launder contaminated clothing before re-use. Work clothes should be laundered separately.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Clear liquid
Odour	Characteristic
Colour	Pale yellow to amber
pH	No Data Available
Vapour Pressure	<1 mbar (@ 20 °C)
Relative Vapour Density	No Data Available
Boiling Point	>250 °C (with decomposition)
Melting Point	<0 °C
Freezing Point	No Data Available
Solubility	Immiscible with water - Mixes with most organic solvents
Specific Gravity	0.91 - 0.95 (Water = 1)
Flash Point	>=222 °C
Auto Ignition Temp	>300 - 343 °C
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	approx. 0.92 g/cm3
Specific Heat	No Data Available
Molecular Weight	No Data Available

Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	approx. 0.50 Poise (@ 20 °C)
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	Not applicable.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	Although anti-oxidants may be present in the original formulation, these may deplete over time as they come into contact with air. Rags wet/soaked with unsaturated hydrocarbons/drying oils may auto-oxidise; generate heat and, in-time, smoulder and ignite. This is especially the case where oil-soaked materials are folded, bunched, compressed or piled together - this allows the heat to accumulate or even accelerate the reaction.
Properties That May Initiate or Contribute to Fire Intensity	Combustible liquid; may burn but does not ignite readily. Slight hazard when exposed to heat, flame and oxidisers. *Contact with high pressure oxygen may cause ignition/combustion.
Reactions That Release Gases or Vapours	On combustion, emits toxic fumes of Carbon monoxide (CO2), acrolein.
Release of Invisible Flammable Vapours and Gases	Mists containing combustible materials may be explosive.

10. STABILITY AND REACTIVITY

General Information	Absorbent materials (e.g. rags, cloths, mops, absorbents) wetted/soaked with occluded oil must be moistened with water as they may auto-oxidise, become self heating and ignite.
Chemical Stability	Product is considered stable. *Unstable in the presence of incompatible materials.
Conditions to Avoid	Keep away from heat and sources of ignition.
Materials to Avoid	Incompatible/reactive with oxidising agents.
Hazardous Decomposition Products	On combustion, emits toxic fumes of Carbon monoxide (CO2), acrolein. At temperatures >250 °C short-chain fatty acids, polymers and acrolein may be formed.
Hazardous Polymerisation	Hazardous polymerisation will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	Information on possible routes of exposure: - Ingestion: Considered to be non-toxic. Ingestion may result in nausea, abdominal irritation, pain and vomiting; Laxative effect. - Skin contact: The material may cause skin irritation after prolonged or repeated exposure and may produce, on contact, skin redness, swelling, the production of vesicles, scaling and thickening of the skin. - Eye contact: Although the liquid is not thought to be an irritant, direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness. - Inhalation: Not normally a hazard due to non-volatile nature of product. Inhalation of oil mists/aerosols may cause discomfort and may produce respiratory irritation.

Chronic effects: Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.
*When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided us.

Acute

Ingestion Acute toxicity (Oral):
- LD50, Rat: >4,750 mg/kg [Supplier's SDS].

Carcinogen Category None

12. ECOLOGICAL INFORMATION

Ecotoxicity Not considered as toxic.

Persistence/Degradability Considered biodegradable.

Mobility The product floats on water.
*The oil film on water surface may physically affect aquatic organisms, due to the interruption of oxygen transfer between the air and water.

Environmental Fate Prevent entry into drains and waterways.

Bioaccumulation Potential No information available.

Environmental Impact No Data Available

13. DISPOSAL CONSIDERATIONS

General Information Recycle, wherever possible, or dispose of in accordance with local/regional/national regulations. Bury or incinerate residue at an approved site. Recycle containers if possible, or dispose of in an authorised landfill.

Special Precautions for Land Fill This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

14. TRANSPORT INFORMATION

Land Transport (Australia)
ADG Code

Proper Shipping Name	Linseed Oil
Class	C2 Combustible Liquids - Flash Point >93°C, Closed Cup, Not Excluded Flammable
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Malaysia)
ADR Code

Proper Shipping Name	Linseed Oil
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (New Zealand)
NZS5433

Proper Shipping Name	Linseed Oil
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (United States of America)
US DOT

Proper Shipping Name	Linseed Oil
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport
IMDG Code

Proper Shipping Name	Linseed Oil
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No

Comments	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport
IATA DGR

Proper Shipping Name	Linseed Oil
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

National Transport Commission (Australia)
Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)
Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	Not Hazardous

National/Regional Inventories

Australia (AIIC)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	232-278-6
Europe (REACh)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (List of Classified Substances)	Not Determined
New Zealand (NZIoC)	Listed

Philippines (PICCS)	Not Determined
Taiwan (TCSI)	Not Determined
USA (TSCA)	Not Determined
Mexico (INSQ)	Not Determined

16. OTHER INFORMATION

Related Product Codes

LINOIL0700, LINOIL0800, LINOIL0900, LINOIL1000, LINOIL1001, LINOIL1002, LINOIL1003, LINOIL1004, LINOIL1005, LINOIL1006, LINOIL1007, LINOIL1008, LINOIL1009, LINOIL1010, LINOIL1011, LINOIL1012, LINOIL1013, LINOIL1014, LINOIL1020, LINOIL1100, LINOIL1101, LINOIL1102, LINOIL1200, LINOIL1300, LINOIL1400, LINOIL1422, LINOIL1500, LINOIL1501, LINOIL1600, LINOIL1601, LINOIL1700, LINOIL1701, LINOIL1800, LINOIL1900, LINOIL1901, LINOIL1902, LINOIL2000, LINOIL2001, LINOIL2002, LINOIL2003, LINOIL2004, LINOIL2005, LINOIL2100, LINOIL2300, LINOIL2500, LINOIL2501, LINOIL3000, LINOIL3001, LINOIL3002, LINOIL3003, LINOIL3004, LINOIL3005, LINOIL3500, LINOIL4010, LINOIL4100, LINOIL5000, LINOIL5001, LINOIL5100, LINOIL5101, LINOIL5102, LINOIL5105, LINOIL5200, LINOIL5210, LINOIL5300, LINOIL5301, LINOIL5305, LINOIL5400, LINOIL5500, LINOIL5501, LINOIL5600, LINOIL5700, LINOIL6000, LINOIL6001, LINOIL6100, LINOIL6200, LINOIL6300, LINOIL6301, LINOIL6350, LINOIL6355, LINOIL6360, LINOIL6370, LINOIL6371, LINOIL6400, LINOIL6500, LINOIL6800, LINOIL6900, LINOIL7000, LINOIL7001, LINOIL7100, LINOIL7200, LINOIL7201, LINOIL7400, LINOIL7500, LINOIL7700, LINOIL8000, LINOIL8001, LINOIL8100, LINOIL8101, LINOIL8300, LINOIL8301, LINOIL8322, LINOIL8400, LINOIL8401, LINOIL8500, LINOIL8501, LINOIL8600, LINOIL8700, LINOIL8900, LINOIL9000, LINOIL9400, LINOIL9500, LINOIL9600

Revision

5

Revision Date

07 Dec 2021

Key/Legend

< Less Than
> Greater Than
AICS Australian Inventory of Chemical Substances
atm Atmosphere
CAS Chemical Abstracts Service (Registry Number)
cm^2 Square Centimetres
CO2 Carbon Dioxide
COD Chemical Oxygen Demand
deg C (°C) Degrees Celcius
EPA (New Zealand) Environmental Protection Authority of New Zealand
deg F (°F) Degrees Farenheit
g Grams
g/cm^3 Grams per Cubic Centimetre
g/l Grams per Litre
HSNO Hazardous Substance and New Organism
IDLH Immediately Dangerous to Life and Health
immiscible Liquids are insoluable in each other.
inHg Inch of Mercury
inH2O Inch of Water
K Kelvin
kg Kilogram
kg/m^3 Kilograms per Cubic Metre
lb Pound
LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
ltr or **L** Litre
m^3 Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m^3 Milligrams per Cubic Metre
Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.

mm Millimetre
mmH2O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Heath and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight