



# SAFETY DATA SHEET OLEIC ACID REVISION 2, DATE 01 JAN 19

## 1. IDENTIFICATION

<b>Product Name</b>	<b>Oleic acid</b>
<b>Other Names</b>	Oleic acid 70% min.; Oleic acid 75% min.; Oleic acid 78% min.; Oleic acid 80% min.
<b>Uses</b>	For the production of oleochemical derivatives for pharmaceutical, cosmetics, food and feed applications.
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	C18H34O2
<b>Chemical Name</b>	9-Octadecenoic acid, (Z)-
<b>Product Description</b>	Saturated and unsaturated straight chain aliphatic monocarboxylic acids, mainly oleic acid.

### Contact Details of the Supplier of this Safety Data Sheet

<b>Organisation</b>	<b>Location</b>	<b>Telephone</b>
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	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

### Emergency Contact Details

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

<b>Organisation</b>	<b>Location</b>	<b>Telephone</b>
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
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

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

## National Transport Commission (Australia)

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

<b>Dangerous Goods Classification</b>	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

*Ingredients*

Chemical Entity	Formula	CAS Number	Proportion
Oleic acid	C18H34O2	112-80-1	>=70 - 85 %
Ingredients determined not to be hazardous	Unspecified	Unspecified	Balance %

## 4. FIRST AID MEASURES

*Description of necessary measures according to routes of exposure*

<b>Swallowed</b>	IF SWALLOWED: Rinse mouth. Do not induce vomiting. Get immediate medical advice/attention. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Never give anything by mouth to an unconscious person.
<b>Eye</b>	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for 10 - 15 minutes. If eye irritation persists, get medical advice/attention.
<b>Skin</b>	IF ON SKIN: Remove contaminated clothing and shoes immediately. 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.
<b>Inhaled</b>	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.
<b>Advice to Doctor</b>	Treat symptomatically.
<b>Medical Conditions Aggravated by Exposure</b>	No information available.

## 5. FIRE FIGHTING MEASURES

<b>General Measures</b>	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
<b>Flammability Conditions</b>	May be combustible at high temperatures; May burn but does not ignite readily.
<b>Extinguishing Media</b>	Use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction - Do not use water jets.
<b>Fire and Explosion Hazard</b>	Slightly flammable to flammable in the presence of heat. Non-flammable in the presence of shocks.  Fire may produce irritating, toxic and/or corrosive fumes, including Carbon oxides (CO, CO2). Under certain fire conditions, traces of other toxic gases cannot be excluded.

**Hazardous Products of Combustion**

<b>Special Fire Fighting Instructions</b>	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
<b>Personal Protective Equipment</b>	Wear self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.
<b>Flash Point</b>	>=113 °C
<b>Lower Explosion Limit</b>	No Data Available
<b>Upper Explosion Limit</b>	No Data Available
<b>Auto Ignition Temperature</b>	>250 - 363 °C
<b>Hazchem Code</b>	No Data Available

**6. ACCIDENTAL RELEASE MEASURES**

<b>General Response Procedure</b>	Ensure adequate ventilation. ELIMINATE all ignition sources. Do not touch or walk through spilled material - High slip hazard because of leaking or spilled product. Avoid breathing vapours and contact with eyes, skin and clothing.
<b>Clean Up Procedures</b>	Recover large spills for salvage or disposal. Absorb residues with earth, sand or other non-combustible material and transfer to a suitable container for disposal (see SECTION 13).
<b>Containment</b>	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas.
<b>Decontamination</b>	Clean contaminated objects and areas thoroughly, observing environmental regulations. Retain contaminated washing water and dispose.
<b>Environmental Precautionary Measures</b>	Do not empty into drains or the aquatic environment. Do not allow to enter into soil/subsoil.
<b>Evacuation Criteria</b>	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
<b>Personal Precautionary Measures</b>	Use personal protective equipment as required (see SECTION 8).

**7. HANDLING AND STORAGE**

<b>Handling</b>	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. Open and handle receptacle with care. Avoid breathing mist/vapours/aerosols and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Keep away from heat and sources of ignition - No smoking. Ground and bond container and receiving equipment. Drum is not a pressure vessel; never use pressure to empty.
<b>Storage</b>	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Avoid exposure to air and light. Keep away from heat and sources of ignition - No smoking. Keep away from food/feedstuffs and incompatible materials (see SECTION 10).
<b>Container</b>	Keep in the original or suitable containers. Store in light-resistant containers. Empty containers pose a fire risk, evaporate the residue under a fume hood.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

<b>General</b>	No specific exposure standards are available for this product.
<b>Exposure Limits</b>	No Data Available
<b>Biological Limits</b>	No information available.
<b>Engineering Measures</b>	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.

<b>Personal Protection Equipment</b>	<ul style="list-style-type: none"> <li>- Respiratory protection: Not normally required. Wear respiratory protection in case of inadequate ventilation or if an inhalation risk exists. Recommended: Organic vapour/particulate filter respirator (refer to AS/NZS 1715 &amp; 1716).</li> <li>- Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses or chemical goggles, tightly sealed.</li> <li>- Hand protection: Handle with gloves. Recommended: Impervious gloves, e.g. Nitrile rubber, Chloroprene rubber.</li> <li>- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls, apron, safety shoes/boots.</li> </ul>
<b>Special Hazards Precautions</b>	No information available.
<b>Work Hygienic Practices</b>	Do not eat, drink or smoke when using this product. Wash hands before breaks and at the end of work. Immediately remove all soiled and contaminated clothing. Wash contaminated clothing before reuse.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Liquid
<b>Appearance</b>	Oily liquid (20 °C)
<b>Odour</b>	Characteristic, faint, fatty
<b>Colour</b>	Colourless - light yellow
<b>pH</b>	No Data Available
<b>Vapour Pressure</b>	0.0000728 hPa (@ 25 °C)
<b>Relative Vapour Density</b>	No Data Available
<b>Boiling Point</b>	220 - 300 °C
<b>Melting Point</b>	<=20 °C
<b>Freezing Point</b>	No Data Available
<b>Solubility</b>	Insoluble in water - Soluble in many organic solvents
<b>Specific Gravity</b>	0.89 - 0.9 (Water = 1)
<b>Flash Point</b>	>=113 °C
<b>Auto Ignition Temp</b>	>250 - 363 °C
<b>Evaporation Rate</b>	No Data Available
<b>Bulk Density</b>	No Data Available
<b>Corrosion Rate</b>	No Data Available
<b>Decomposition Temperature</b>	No Data Available
<b>Density</b>	0.89 g/cm <sup>3</sup>
<b>Specific Heat</b>	No Data Available
<b>Molecular Weight</b>	No Data Available
<b>Net Propellant Weight</b>	No Data Available
<b>Octanol Water Coefficient</b>	No Data Available
<b>Particle Size</b>	No Data Available
<b>Partition Coefficient</b>	3 (estimated)
<b>Saturated Vapour Concentration</b>	No Data Available
<b>Vapour Temperature</b>	No Data Available
<b>Viscosity</b>	25 mPa.s (@ 25 °C)
<b>Volatile Percent</b>	No Data Available
<b>VOC Volume</b>	No Data Available
<b>Additional Characteristics</b>	No information available.
<b>Potential for Dust Explosion</b>	Not applicable.

<b>Fast or Intensely Burning Characteristics</b>	No information available.
<b>Flame Propagation or Burning Rate of Solid Materials</b>	No information available.
<b>Non-Flammables That Could Contribute Unusual Hazards to a Fire</b>	No information available.
<b>Properties That May Initiate or Contribute to Fire Intensity</b>	May be combustible at high temperatures; May burn but does not ignite readily.
<b>Reactions That Release Gases or Vapours</b>	Fire/decomposition may produce irritating, toxic and/or corrosive fumes, including Carbon oxides (CO, CO <sub>2</sub> ). Under certain fire conditions, traces of other toxic gases cannot be excluded.
<b>Release of Invisible Flammable Vapours and Gases</b>	No available information.

## 10. STABILITY AND REACTIVITY

<b>General Information</b>	On exposure to air, especially when impure, it oxidises and acquires a yellow to brown colour and rancid odour.
<b>Chemical Stability</b>	Stable under normal operational conditions.
<b>Conditions to Avoid</b>	Keep away from heat and sources of ignition. Avoid exposure to air and light.
<b>Materials to Avoid</b>	Incompatible/reactive with strong oxidising agents, strong reducing agents, concentrated acids and alkalis, perchloric acid and powdered aluminium.
<b>Hazardous Decomposition Products</b>	Fire/decomposition may produce irritating, toxic and/or corrosive fumes, including Carbon oxides (CO, CO <sub>2</sub> ). Under certain fire conditions, traces of other toxic gases cannot be excluded.
<b>Hazardous Polymerisation</b>	Will not occur.

## 11. TOXICOLOGICAL INFORMATION

<b>General Information</b>	<p>Information on possible routes of exposure:</p> <ul style="list-style-type: none"> <li>- Ingestion: No adverse health effects expected; May cause nausea and vomiting.</li> <li>- Eye contact: May cause (mild) eye irritation.</li> <li>- Skin contact: May cause (mild) skin irritation. Absorbed through skin (permeator).</li> <li>- Inhalation: Vapours may cause respiratory tract irritation.</li> </ul> <p>Chronic effects: There is no evidence of mutagenic potential (Ames test: Negative). Not listed as carcinogenic according to the International Agency for Research on Cancer (IARC). A multi-generation study in rats has shown that repeated high doses produce no adverse reproductive effects.</p>
<b>Acute</b>	
<b>Ingestion</b>	<p>Acute toxicity (Oral):</p> <ul style="list-style-type: none"> <li>- LD<sub>50</sub>, Rat: 25,000 mg/kg (Oleic acid).</li> </ul>
<b>Carcinogen Category</b>	None

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	<p>Aquatic toxicity:</p> <ul style="list-style-type: none"> <li>- LC<sub>50</sub>, Fish (Pimephales promelas): 205 mg/l (96 h).</li> </ul>
<b>Persistence/Degradability</b>	Product is biodegradable.
<b>Mobility</b>	No available information.
<b>Environmental Fate</b>	Slightly hazardous for water - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Bioaccumulation Potential	Does not accumulate in organisms (log Pow >5).
Environmental Impact	No Data Available

### 13. DISPOSAL CONSIDERATIONS

General Information	Dispose of contents/container in accordance with local/regional/national/international regulations.
Special Precautions for Land Fill	Handle contaminated packaging in the same way as the substance itself.

### 14. TRANSPORT INFORMATION

#### Land Transport (Australia)

ADG Code

Proper Shipping Name	Oleic acid
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	Oleic acid
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	Oleic acid
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available

<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

**Land Transport (United States of America)**

US DOT

<b>Proper Shipping Name</b>	Oleic acid
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

**Sea Transport**

IMDG Code

<b>Proper Shipping Name</b>	Oleic acid
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>EMS</b>	No Data Available
<b>Marine Pollutant</b>	No
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for SEA transport.

**Air Transport**

IATA DGR

<b>Proper Shipping Name</b>	Oleic acid
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for AIR transport.

**National Transport Commission (Australia)**

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

<b>Dangerous Goods Classification</b>	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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**15. REGULATORY INFORMATION**

<b>General Information</b>	No Data Available
<b>Poisons Schedule (Aust)</b>	Not Scheduled

**Environmental Protection Authority (New Zealand)**

Hazardous Substances and New Organisms Amendment Act 2015

<b>Approval Code</b>	Not Hazardous
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**National/Regional Inventories**

<b>Australia (AIC)</b>	Listed
<b>Canada (DSL)</b>	Not Determined
<b>Canada (NDSL)</b>	Not Determined
<b>China (IECSC)</b>	Not Determined
<b>Europe (EINECS)</b>	204-007-1
<b>Japan (ENCS/METI)</b>	Not Determined
<b>Korea (KECI)</b>	Not Determined
<b>Malaysia (EHS Register)</b>	Not Determined
<b>New Zealand (NZIoC)</b>	Listed
<b>Philippines (PICCS)</b>	Not Determined
<b>Switzerland (Giftliste 1)</b>	Not Determined
<b>Switzerland (Inventory of Notified Substances)</b>	Not Determined
<b>Taiwan (NCSR)</b>	Not Determined
<b>USA (TSCA)</b>	Not Determined

**16. OTHER INFORMATION**

<b>Related Product Codes</b>	OLACID1200, OLACID1202, OLACID1210, OLACID1211, OLACID1212, OLACID1215, OLACID1300, OLACID1301, OLACID1302, OLACID1303, OLACID1400, OLACID1401, OLACID1402, OLACID1430, OLACID1431, OLACID1440, OLACID1500, OLACID1600, OLACID1602, OLACID1700, OLACID1800, OLACID1802, OLACID1900, OLACID1902, OLACID6180, OLACID6181, OLACID6500, OLACID6501, OLACID6502, OLACID6503, OLACID6504, OLACID6505, OLACID6506, OLACID6507, OLACID6508, OLACID6509, OLACID6510, OLACID6511, OLACID6512, OLACID6514, OLACID6515, OLACID6516, OLACID6517, OLACID6518, OLACID6519, OLACID6520, OLACID6521, OLACID6522, OLACID6525, OLACID6526, OLACID6527, OLACID6530, OLACID6532, OLACID6540, OLACID6542, OLACID6550, OLACID6552, OLACID7500, OLACID7501, OLACID8100
<b>Revision</b>	2
<b>Revision Date</b>	01 Jan 2019
	< Less Than



## Key/Legend

> Greater Than  
**AICS** Australian Inventory of Chemical Substances  
**atm** Atmosphere  
**CAS** Chemical Abstracts Service (Registry Number)  
**cm<sup>2</sup>** Square Centimetres  
**CO<sub>2</sub>** 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<sup>3</sup>** 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  
**inH<sub>2</sub>O** Inch of Water  
**K** Kelvin  
**kg** Kilogram  
**kg/m<sup>3</sup>** Kilograms per Cubic Metre  
**lb** Pound  
**LC<sub>50</sub>** LC stands for lethal concentration. LC<sub>50</sub> 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.  
**LD<sub>50</sub>** LD stands for Lethal Dose. LD<sub>50</sub> 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<sup>3</sup>** Cubic Metre  
**mbar** Millibar  
**mg** Milligram  
**mg/24H** Milligrams per 24 Hours  
**mg/kg** Milligrams per Kilogram  
**mg/m<sup>3</sup>** Milligrams per Cubic Metre  
**Misc or Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.  
**mm** Millimetre  
**mmH<sub>2</sub>O** 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