



SAFETY DATA SHEET
12-HYDROXYSTEARIC ACID (12-HSA)
REVISION 4, DATE 24 MAR 2021

1. IDENTIFICATION

Product Name	12-Hydroxystearic acid (12-HSA)
Other Names	12-Hydroxyoctadecanoic acid; Fatty acids, castor oil, hydrogenated [CAS#61790-39-4]; Hydrogenated castor oil fatty acid (HCOFA); Stearic acid, 12-hydroxy-
Uses	Intermediate, Resins, Lubricants, Dispersants, Polymer & rubber processing aid, Cosmetics.
Chemical Family	No Data Available
Chemical Formula	C ₁₈ H ₃₆ O ₃
Chemical Name	Octadecanoic acid, 12-hydroxy-
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

Redox Ltd
Corporate Office Sydney
Locked Bag 15 Minto NSW 2566 Australia
2 Swettenham Road Minto NSW 2566 Australia
All Deliveries: 4 Holmes Road Minto NSW 2566 Australia

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ABN 92 000 762 345

Australia
Adelaide
Brisbane
Melbourne
Perth
Sydney

New Zealand
Auckland
Christchurch
Hawke's Bay
UK
London

Malaysia
Kuala Lumpur
USA
Los Angeles
Oakland
Mexico
Saltillo



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)
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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
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3. COMPOSITION/INFORMATION ON INGREDIENTS*Ingredients*

Chemical Entity	Formula	CAS Number	Proportion
12-Hydroxystearic acid	C18H36O3	106-14-9	>=82 - 100 %
Other fatty acids	Unspecified	Unspecified	<=15 %

4. FIRST AID MEASURES*Description of necessary measures according to routes of exposure*

Swallowed	IF SWALLOWED: Rinse mouth. Get medical advice/attention if you feel unwell.
Eye	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 at least 15 minutes. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.
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. Apply resuscitation if victim is not breathing. Administer oxygen if breathing is difficult.
Advice to Doctor	Treat symptomatically.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.

General Measures

Flammability Conditions	Combustible solid; May burn but does not ignite readily.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO ₂), foam or water spray for extinction - Do not scatter spilled material with high-pressure water streams.
Fire and Explosion Hazard	Avoid generating dust; Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Hazardous Products of Combustion	Fire may produce irritating and/or toxic fumes, including Carbon monoxide and Carbon dioxide.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.
Flash Point	210 - 294 °C [COC]
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. ELIMINATE all ignition sources (if dust clouds can occur). Do not touch or walk through spilled material - slippery on walking area! Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Take up clean material and use as planned. Take up contaminated material by mechanical means, fill into clean containers and dispose according to regulations (see SECTION 13). *If melt is spilled, allow it to solidify before cleaning up.
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Prevent dust cloud.
Decontamination	Flush with water.
Environmental Precautionary Measures	Prevent entry into drains and waterways.
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 formation of dust or aerosols. Avoid breathing dust and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Keep away from excessive heat and sources of ignition - No smoking.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed when not in use. Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10).
Container	Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. For dusts from solid substances without specific occupational exposure standards:
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- Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m³ (measured as inhalable dust).
- New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m³; TWA = 3 mg/m³ (respirable dust).

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	<ul style="list-style-type: none">- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Dust mask/particulate filter respirator (refer to AS/NZS 1715 & 1716).- Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Protective glasses.- Hand protection: Handle with gloves. Recommended: Protective gloves.- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. No recommendation.
Special Hazards Precautions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Take off contaminated clothing and wash it before reuse. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Flakes or powder
Odour	Slight, characteristic (like hardened vegetable oil)
Colour	White, creamy to pale yellow
pH	No Data Available
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	~265 °C (Decomposes before boiling)
Melting Point	>70 - 77 °C
Freezing Point	No Data Available
Solubility	Insoluble in water - Soluble in alcohol, ether & chloroform
Specific Gravity	0.95 - 1.021
Flash Point	210 - 294 °C [COC]
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
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	17.6 cps (@ 100 °C)
Volatile Percent	No Data Available
VOC Volume	No Data Available

Additional Characteristics	No information available.
Potential for Dust Explosion	Avoid generating dust; Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
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	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Combustible solid; May burn but does not ignite readily.
Reactions That Release Gases or Vapours	Fire/decomposition may produce irritating and/or toxic fumes, including Carbon monoxide and Carbon dioxide.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	No information available.
Chemical Stability	Stable under normal storage conditions.
Conditions to Avoid	Avoid generating dust. Keep away from excessive heat and sources of ignition.
Materials to Avoid	Incompatible/reactive with strong oxidising agents, strong alkaline substances.
Hazardous Decomposition Products	None if handled and stored as prescribed. Fire/decomposition may produce irritating and/or toxic fumes, including Carbon monoxide and Carbon dioxide.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION

General Information	Information on possible routes of exposure: <ul style="list-style-type: none">- Ingestion: Ingestion of large quantities may result in intestinal obstruction.- Eye contact: Excessive concentrations of nuisance dusts in the workroom air may seriously reduce visibility and may cause unpleasant deposits in the eyes.- Skin contact: Excessive concentrations of nuisance dusts in the workroom may cause unpleasant deposits on the skin and in the ears. Injury to the skin may occur by chemical or mechanical action or by the rigorous skin cleansing procedures necessary for their removal.- Inhalation: Excessive concentrations of nuisance dusts in the workroom may cause unpleasant deposits in the nasal passages. Chronic effects: This material is not listed by IARC, NTP or OSHA as a carcinogen.
Acute	
Ingestion	Acute toxicity (Oral): <ul style="list-style-type: none">- Expected LD50, Rat: >5,000 mg/kg (based on data taken from similar product) [Supplier's SDS].
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: <ul style="list-style-type: none">- LC50, Fish (freshwater): >9,900 mg/l (96 h).
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- EC50, Crustacea (Daphnia magna): >100 mg/l (48 h).

Persistence/Degradability	Readily biodegradable.
Mobility	No information available.
Environmental Fate	Prevent entry into drains and waterways.
Bioaccumulation Potential	No information available.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of contents/container in accordance with local/regional/national regulations.
Special Precautions for Land Fill	Dissolve or mix the product with a combustible solvent and burn in a chemical incinerator equipped with afterburner and scrubber. Smaller quantity can be disposed of with household waste.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	12-Hydroxystearic 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 (Malaysia)

ADR Code

Proper Shipping Name	12-Hydroxystearic 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	12-Hydroxystearic acid
Class	No Data Available

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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	12-Hydroxystearic 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.

Sea Transport

IMDG Code

Proper Shipping Name	12-Hydroxystearic acid
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	12-Hydroxystearic acid
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)

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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 (AIC)

Listed

Canada (DSL)

Listed

Canada (NDSL)

Not Listed

China (IECSC)

Listed

Europe (EINECS)

203-366-1

Europe (REACH)

Not Determined

Japan (ENCS/METI)

Listed

Korea (KECI)

Listed

Malaysia (List of Classified Substances)

Not Listed

New Zealand (NZIoC)

Listed

Philippines (PICCS)

Listed

Taiwan (TCSI)

Listed

USA (TSCA)

Listed

Mexico (INSQ)

Listed

16. OTHER INFORMATION

Related Product Codes

HYSTEA0001, HYSTEA1000, HYSTEA1001, HYSTEA1002, HYSTEA1003, HYSTEA1004, HYSTEA1005, HYSTEA1006, HYSTEA1007, HYSTEA1008, HYSTEA1900, HYSTEA2000, HYSTEA2001, HYSTEA2005, HYSTEA2006, HYSTEA2007, HYSTEA2010, HYSTEA2020, HYSTEA2025, HYSTEA2100, HYSTEA2101, HYSTEA3000, HYSTEA3100, HYSTEA3101, HYSTEA3102, HYSTEA3103, HYSTEA3104, HYSTEA3105, HYSTEA3106, HYSTEA3107, HYSTEA3108, HYSTEA3109, HYSTEA3110, HYSTEA3111, HYSTEA3900, HYSTEA4000, HYSTEA4100, HYSTEA5000, HYSTEA6000, HYSTEA7000, HYSTEA8000, HYSTEA8100, HYSTEA9000, HYSTEA9005, HYSTEA9008, HYSTEA9088, HYSTEA9100, HYSTEA9105

Revision

4

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Key/Legend

< Less Than

> Greater Than

AICS Australian Inventory of Chemical Substances

atm Atmosphere

CAS Chemical Abstracts Service (Registry Number)

cm² 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/cm³ 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/m³ 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

m³ Cubic Metre

mbar Millibar

mg Milligram

mg/24H Milligrams per 24 Hours

mg/kg Milligrams per Kilogram

mg/m³ 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