



# SAFETY DATA SHEET ACETYL L-CARNITINE HCL REVISION 3, DATE 08 OCT 19

## 1. IDENTIFICATION

<b>Product Name</b>	<b>Acetyl L-Carnitine HCl</b>
<b>Other Names</b>	(3R)-3-(acetyloxy)-4-(trimethylammonio)butanoate hydrochloride; Acetyl carnitine HCl; Acetyl L-Carnitine; Acetyl L-Carnitine Hydrochloride
<b>Uses</b>	As supplement for application in food, feed and pharmaceuticals.
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	C <sub>9</sub> H <sub>18</sub> NO <sub>4</sub> .Cl
<b>Chemical Name</b>	1-Propanaminium, 2-(acetyloxy)-3-carboxy-N,N,N-trimethyl-, chloride, (2R)-
<b>Product Description</b>	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	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.*

Organisation	Location	Telephone
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

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

Phone +61 2 9733 3000  
Fax +61 2 9733 3111  
E-mail [sydney@redox.com](mailto:sydney@redox.com)  
Web [www.redox.com](http://www.redox.com)  
ABN 92 000 762 345

Australia	New Zealand	Malaysia
Adelaide	Auckland	Kuala Lumpur
Brisbane	Christchurch	USA
Melbourne	Hawke's Bay	Los Angeles
Perth	UK	Oakland
Sydney	London	Mexico
		Saltillo



## Globally Harmonised System

**Hazard Classification** Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

**Hazard Categories** Skin Corrosion/Irritation - Category 2  
 Serious Eye Damage/Irritation - Category 2A  
 Specific Target Organ Toxicity (Single Exposure) - Category 3

**Pictograms**

**Signal Word** Warning

**Hazard Statements**

<b>H315</b>	Causes skin irritation.
<b>H319</b>	Causes serious eye irritation.
<b>H335</b>	May cause respiratory irritation.

<b>Precautionary Statements</b>	Prevention	<b>P261</b>	Avoid breathing dust/fume/gas/mist/vapours/spray.
		<b>P264</b>	Wash skin thoroughly after handling.
		<b>P271</b>	Use only outdoors or in a well-ventilated area.
		<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection and suitable respirator.
	Response	<b>P302 + P352</b>	IF ON SKIN: Wash with plenty of water.
		<b>P304 + P340</b>	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
		<b>P305 + P351 + P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		<b>P332 + P313</b>	If skin irritation occurs: Get medical advice.
		<b>P337 + P313</b>	If eye irritation persists: Get medical advice.
		<b>P362</b>	Take off contaminated clothing.
	Storage	<b>P403 + P233</b>	Store in a well-ventilated place. Keep container tightly closed.
		<b>P405</b>	Store locked up.
	Disposal	<b>P501</b>	Dispose of contents/container in accordance with local / regional / national / international regulations.

**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** 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
Acetyl L-Carnitine HCl	C9H18NO4.Cl	5080-50-2	<=100 %

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

<b>Swallowed</b>	IF SWALLOWED: Rinse mouth with water. Do not induce vomiting. Get medical advice/attention. 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 at least 15 minutes. Get medical advice/attention.
<b>Skin</b>	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs, get medical advice/attention.
<b>Inhaled</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a Poison Centre or doctor/physician for advice. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
<b>Advice to Doctor</b>	Treat symptomatically. Show this safety data sheet (SDS) to the doctor in attendance.
<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 burn but does not ignite readily.
<b>Extinguishing Media</b>	Use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction. Suitable extinguishing media for the surrounding fire should be used.
<b>Fire and Explosion Hazard</b>	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.
<b>Hazardous Products of Combustion</b>	In combustion, emits irritating and/or toxic fumes, including Carbon oxides, Nitrogen oxides (NOx), Hydrogen chloride gas.
<b>Special Fire Fighting Instructions</b>	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
<b>Personal Protective Equipment</b>	Wear positive pressure self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.
<b>Flash Point</b>	No Data Available
<b>Lower Explosion Limit</b>	No Data Available
<b>Upper Explosion Limit</b>	No Data Available
<b>Auto Ignition Temperature</b>	No Data Available
<b>Hazchem Code</b>	No Data Available

**6. ACCIDENTAL RELEASE MEASURES**

<b>General Response Procedure</b>	Ensure adequate ventilation. ELIMINATE all ignition sources (if dust clouds can occur). Do not touch or walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
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<b>Clean Up Procedures</b>	With clean shovel, place material into a closable, labelled salvage container for disposal (see SECTION 13). Avoid dispersal of dust in the air.
<b>Containment</b>	Stop leak if you can do it without risk. Prevent dust cloud. Cover powder spill with plastic sheet or tarp to minimise spreading.
<b>Decontamination</b>	No information available.
<b>Environmental Precautionary Measures</b>	Do not discharge into drains or waterways.
<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 - Use only outdoors or in a well-ventilated area. Do not handle in a confined space! Handle in accordance with good industrial hygiene and safety practice. Avoid formation of dust and aerosols. Avoid breathing dust/aerosols and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8).
<b>Storage</b>	Store in cool place, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10). Store locked up.
<b>Container</b>	Keep in the original container.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>General</b>	No specific exposure standards are available for this product. For dusts from solid substances without specific occupational exposure standards: <ul style="list-style-type: none"><li>- Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m<sup>3</sup> (measured as inhalable dust).</li><li>- New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m<sup>3</sup>; TWA = 3 mg/m<sup>3</sup> (respirable dust).</li></ul>
<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: In case of inadequate ventilation, wear respiratory protection. Recommended: Dust mask/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 with side-shields.</li><li>- Hand protection: Wear protective gloves. Recommended: Impervious gloves.</li><li>- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls, safety shoes.</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 skin 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

<b>Physical State</b>	Solid
<b>Appearance</b>	Crystalline powder
<b>Odour</b>	None reported

<b>Colour</b>	White
<b>pH</b>	2.3 - 2.6
<b>Vapour Pressure</b>	No Data Available
<b>Relative Vapour Density</b>	No Data Available
<b>Boiling Point</b>	No Data Available
<b>Melting Point</b>	194 °C
<b>Freezing Point</b>	No Data Available
<b>Solubility</b>	Soluble in water
<b>Specific Gravity</b>	No Data Available
<b>Flash Point</b>	No Data Available
<b>Auto Ignition Temp</b>	No Data Available
<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>	No Data Available
<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>	No Data Available
<b>Saturated Vapour Concentration</b>	No Data Available
<b>Vapour Temperature</b>	No Data Available
<b>Viscosity</b>	No Data Available
<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>	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.
<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 burn but does not ignite readily.
<b>Reactions That Release Gases or Vapours</b>	In combustion/decomposition, emits irritating and/or toxic fumes, including Carbon oxides, Nitrogen oxides (NOx), Hydrogen chloride gas.
<b>Release of Invisible Flammable Vapours and Gases</b>	No information available.

## 10. STABILITY AND REACTIVITY

<b>General Information</b>	No information available.
<b>Chemical Stability</b>	Stable under normal conditions.

<b>Conditions to Avoid</b>	Avoid generating dust. Keep away from heat and sources of ignition.
<b>Materials to Avoid</b>	Incompatible/reactive with strong oxidising agents, strong acids.
<b>Hazardous Decomposition Products</b>	In combustion/decomposition, emits irritating and/or toxic fumes, including Carbon oxides, Nitrogen oxides (NOx), Hydrogen chloride gas.
<b>Hazardous Polymerisation</b>	No information available.

## 11. TOXICOLOGICAL INFORMATION

<b>General Information</b>	<ul style="list-style-type: none"><li>- Acute toxicity: There may be soreness and redness of the mouth and throat (Ingestion).</li><li>- Skin corrosion/irritation: Causes skin irritation. There may be irritation and redness at the site of contact.</li><li>- Eye damage/irritation: Causes serious eye irritation. There may be irritation and redness. The eyes may water profusely.</li><li>- Respiratory/skin sensitisation: No information available.</li><li>- Germ cell mutagenicity: No information available.</li><li>- Carcinogenicity: No information available.</li><li>- Reproductive toxicity: No information available.</li><li>- STOT (single exposure): May cause respiratory irritation. There may be irritation of the throat with a feeling of tightness in the chest. Exposure may cause coughing or wheezing.</li><li>- STOT (repeated exposure): No information available.</li><li>- Aspiration toxicity: No information available.</li></ul>
<b>Carcinogen Category</b>	None

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Negligible ecotoxicity.
<b>Persistence/Degradability</b>	No information available.
<b>Mobility</b>	No information available.
<b>Environmental Fate</b>	Do not discharge into drains or waterways.
<b>Bioaccumulation Potential</b>	No information available.
<b>Environmental Impact</b>	No Data Available

## 13. DISPOSAL CONSIDERATIONS

<b>General Information</b>	Dispose of contents/container in accordance with local/regional/national regulations. Contact a licensed professional waste disposal service to dispose of this material.
<b>Special Precautions for Land Fill</b>	Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

## 14. TRANSPORT INFORMATION

### Land Transport (Australia)

ADG Code

**Proper Shipping Name** Acetyl L-Carnitine HCl

## SAFETY DATA SHEET ACETYL L-CARNITINE HCL REVISION 3, DATE 08 OCT 19

<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	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.

### Land Transport (Malaysia)

ADR Code

<b>Proper Shipping Name</b>	Acetyl L-Carnitine HCl
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	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.

### Land Transport (New Zealand)

NZS5433

<b>Proper Shipping Name</b>	Acetyl L-Carnitine HCl
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	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.

### Land Transport (United States of America)

US DOT

<b>Proper Shipping Name</b>	Acetyl L-Carnitine HCl
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	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>	Acetyl L-Carnitine HCl
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<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>	Acetyl L-Carnitine HCl
<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 Assessed
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**National/Regional Inventories**

<b>Australia (AIC)</b>	Listed
<b>Canada (DSL)</b>	Not Listed
<b>Canada (NDSL)</b>	Not Listed
<b>China (IECSC)</b>	Listed
<b>Europe (EINECS)</b>	610-570-8



Europe (REACH)	Not Listed
Japan (ENCS/METI)	Listed
Korea (KECI)	Not Listed
Malaysia (EHS Register)	Not Listed
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Listed
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Listed
USA (TSCA)	Not Listed

## 16. OTHER INFORMATION

Related Product Codes	ACCARN1000, ACCARN1001, ACCARN1002, ACCARN1010, ACCARN2500, ACCARN3010, ACCARN9000, ACCARN9001
Revision	3
Revision Date	08 Oct 2019
Key/Legend	<p>&lt; Less Than &gt; Greater Than  <b>AICS</b> Australian Inventory of Chemical Substances  <b>atm</b> Atmosphere  <b>CAS</b> Chemical Abstracts Service (Registry Number)  <b>cm<sup>2</sup></b> Square Centimetres  <b>CO<sub>2</sub></b> Carbon Dioxide  <b>COD</b> Chemical Oxygen Demand  <b>deg C (°C)</b> Degrees Celcius  <b>EPA (New Zealand)</b> Environmental Protection Authority of New Zealand  <b>deg F (°F)</b> Degrees Farenheit  <b>g</b> Grams  <b>g/cm<sup>3</sup></b> Grams per Cubic Centimetre  <b>g/l</b> Grams per Litre  <b>HSNO</b> Hazardous Substance and New Organism  <b>IDLH</b> Immediately Dangerous to Life and Health  <b>immiscible</b> Liquids are insoluable in each other.  <b>inHg</b> Inch of Mercury  <b>inH<sub>2</sub>O</b> Inch of Water  <b>K</b> Kelvin  <b>kg</b> Kilogram  <b>kg/m<sup>3</sup></b> Kilograms per Cubic Metre  <b>lb</b> Pound  <b>LC<sub>50</sub></b> 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.  <b>LD<sub>50</sub></b> 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.  <b>ltr or L</b> Litre  <b>m<sup>3</sup></b> Cubic Metre  <b>mbar</b> Millibar  <b>mg</b> Milligram  <b>mg/24H</b> Milligrams per 24 Hours  <b>mg/kg</b> Milligrams per Kilogram</p>

**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 Health 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