



## LABELED CARNITINE STANDARDS SET B

### Novachem Pty Ltd

Version No: 1.4

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Chemwatch Hazard Alert Code: 2

Issue Date: 29/05/2023

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S.GHS.AUS.EN

#### SECTION 1 Identification of the substance / mixture and of the company / undertaking

##### Product Identifier

Product name	LABELED CARNITINE STANDARDS SET B
Synonyms	Not Available
Other means of identification	NSK-B

##### Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	For professional use only
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##### Details of the manufacturer or supplier of the safety data sheet

Registered company name	Novachem Pty Ltd	Novachem Pty Ltd
Address	25 Crissane Road, Heidelberg West Victoria 3081 Australia	25 Crissane Road, Heidelberg West Victoria 3081 Australia
Telephone	+61384151255	+61384151255
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Website	<a href="http://www.novachem.com.au">www.novachem.com.au</a>	<a href="http://www.novachem.com.au">www.novachem.com.au</a>
Email	novachem@novachem.com.au	novachem@novachem.com.au

##### Emergency telephone number


Association / Organisation	Victorian Poisons Information Centre	Victorian Poisons Information Centre
Emergency telephone numbers	13 11 26	13 11 26
Other emergency telephone numbers	Not Available	Not Available

#### SECTION 2 Hazards identification

##### Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification [1]	Serious Eye Damage/Eye Irritation Category 2A, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

##### Label elements

Hazard pictogram(s)	
Signal word	Warning

##### Hazard statement(s)

H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

##### Precautionary statement(s) Prevention

P271	Use only outdoors or in a well-ventilated area.
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P280	Wear protective gloves, protective clothing, eye protection and face protection.
P261	Avoid breathing dust/fumes.
P264	Wash all exposed external body areas thoroughly after handling.

## Precautionary statement(s) Response

P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.

## Precautionary statement(s) Storage

P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

## Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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## SECTION 3 Composition / information on ingredients

## Substances

See section below for composition of Mixtures

## Mixtures

CAS No	%[weight]	Name
126827-79-0*	48.235176	<u>L-CARNITINE (TRIMETHYL-D9, 98%</u>
1334532-17-0*	17.188281	<u>Acetyl L-Carnitine-d3 Hydrochloride</u>
1334532-26-1*	12.438756	<u>Palmitoyl-L-carnitine-d3 Hydrochloride</u>
1334532-25-0*	5.909409	<u>Myristoyl-L-carnitine-d3 Hydrochloride</u>
54377-02-5*	4.629537	<u>Octanoyl L-Carnitine Chloride</u>
139144-12-0*	4.119588	<u>Isovaleryl L-Carnitine Chloride</u>
1334532-21-6*	3.839616	<u>(R)-Butyryl Carnitine-d3 Chloride</u>
1334532-19-2*	3.639636	<u>(R)-Propionyl Carnitine-d3 Chloride</u>
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available	

## SECTION 4 First aid measures

## Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"><li>Wash out immediately with fresh running water.</li><li>Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li><li>Seek medical attention without delay; if pain persists or recurs seek medical attention.</li><li>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li></ul>
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"><li>Immediately remove all contaminated clothing, including footwear.</li><li>Flush skin and hair with running water (and soap if available).</li><li>Seek medical attention in event of irritation.</li></ul>
Inhalation	<ul style="list-style-type: none"><li>If fumes or combustion products are inhaled remove from contaminated area.</li><li>Lay patient down. Keep warm and rested.</li><li>Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li><li>Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li><li>Transport to hospital, or doctor, without delay.</li></ul>
Ingestion	<ul style="list-style-type: none"><li>Immediately give a glass of water.</li><li>First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.</li></ul>

## Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5 Firefighting measures

## Extinguishing media

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

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### Special hazards arising from the substrate or mixture

<b>Fire Incompatibility</b>	None known.
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### Advice for firefighters

<b>Fire Fighting</b>	<ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves in the event of a fire.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water courses.</li> <li>▶ Use fire fighting procedures suitable for surrounding area.</li> </ul>
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>▶ Non combustible.</li> <li>▶ Not considered a significant fire risk, however containers may burn.</li> </ul> May emit poisonous fumes. May emit corrosive fumes.
<b>HAZCHEM</b>	Not Applicable

## SECTION 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures

See section 8

### Environmental precautions

See section 12

### Methods and material for containment and cleaning up

<b>Minor Spills</b>	<ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing dust and contact with skin and eyes.</li> <li>▶ Wear protective clothing, gloves, safety glasses and dust respirator.</li> <li>▶ Use dry clean up procedures and avoid generating dust.</li> </ul>
<b>Major Spills</b>	Moderate hazard. <ul style="list-style-type: none"> <li>▶ <b>CAUTION:</b> Advise personnel in area.</li> <li>▶ Alert Emergency Services and tell them location and nature of hazard.</li> <li>▶ Control personal contact by wearing protective clothing.</li> </ul>

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 Handling and storage

### Precautions for safe handling

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Prevent concentration in hollows and sumps.</li> </ul>
<b>Other information</b>	<ul style="list-style-type: none"> <li>▶ Store in original containers.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ Store in a cool, dry area protected from environmental extremes.</li> <li>▶ Store away from incompatible materials and foodstuff containers.</li> </ul>

### Conditions for safe storage, including any incompatibilities

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>▶ Polyethylene or polypropylene container.</li> <li>▶ Check all containers are clearly labelled and free from leaks.</li> </ul>
<b>Storage incompatibility</b>	None known

## SECTION 8 Exposure controls / personal protection

### Control parameters

#### Occupational Exposure Limits (OEL)

#### INGREDIENT DATA

Not Available

#### Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
LABELED CARNITINE STANDARDS SET B	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
L-CARNITINE (TRIMETHYL-D9, 98%)	Not Available	Not Available

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## LABELED CARNITINE STANDARDS SET B


Ingredient	Original IDLH	Revised IDLH
Acetyl L-Carnitine-d3 Hydrochloride	Not Available	Not Available
Palmitoyl-L-carnitine-d3 Hydrochloride	Not Available	Not Available
Myristoyl-L-carnitine-d3 Hydrochloride	Not Available	Not Available
Octanoyl L-Carnitine Chloride	Not Available	Not Available
Isovaleryl L-Carnitine Chloride	Not Available	Not Available
(R)-Butyryl Carnitine-d3 Chloride	Not Available	Not Available
(R)-Propionyl Carnitine-d3 Chloride	Not Available	Not Available

### Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
L-CARNITINE (TRIMETHYL-D9, 98%)	E	≤ 0.1 ppm
Acetyl L-Carnitine-d3 Hydrochloride	E	≤ 0.1 ppm
Palmitoyl-L-carnitine-d3 Hydrochloride	E	≤ 0.1 ppm
Myristoyl-L-carnitine-d3 Hydrochloride	E	≤ 0.1 ppm
Octanoyl L-Carnitine Chloride	E	≤ 0.1 ppm
Isovaleryl L-Carnitine Chloride	E	≤ 0.1 ppm
(R)-Butyryl Carnitine-d3 Chloride	E	≤ 0.1 ppm
(R)-Propionyl Carnitine-d3 Chloride	E	≤ 0.1 ppm

**Notes:** Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

### Exposure controls

<b>Appropriate engineering controls</b>	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p>
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye and face protection</b>	<ul style="list-style-type: none"> <li>▸ Safety glasses with side shields.</li> <li>▸ Chemical goggles.</li> <li>▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>▸ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.</li> <li>▸ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.</li> </ul> <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care.</p> <p>Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.</p> <ul style="list-style-type: none"> <li>▸ polychloroprene.</li> <li>▸ nitrile rubber.</li> <li>▸ butyl rubber.</li> </ul>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	<ul style="list-style-type: none"> <li>▸ Overalls.</li> <li>▸ P.V.C apron.</li> <li>▸ Barrier cream.</li> <li>▸ Skin cleansing cream.</li> </ul>

### Respiratory protection

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Type -P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	P1 Air-line*	-	PAPR-P1 -
up to 50 x ES	Air-line**	P2	PAPR-P2
up to 100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

\* - Negative pressure demand \*\* - Continuous flow

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
- Use approved positive flow mask if significant quantities of dust becomes airborne.
- Try to avoid creating dust conditions.

## SECTION 9 Physical and chemical properties

### Information on basic physical and chemical properties

Appearance	White-Off white		
Physical state	Solid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Not Available	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

## SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> <li>Unstable in the presence of incompatible materials.</li> <li>Product is considered stable.</li> <li>Hazardous polymerisation will not occur.</li> </ul>
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

Continued...

## LABELED CARNITINE STANDARDS SET B

### SECTION 11 Toxicological information

#### Information on toxicological effects

Inhaled	The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled. If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.
Ingestion	The material has <b>NOT</b> been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	This material can cause eye irritation and damage in some persons.
Chronic	Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

LABELED CARNITINE STANDARDS SET B	TOXICITY	IRRITATION
	Not Available	Not Available
L-CARNITINE (TRIMETHYL-D9, 98%)	TOXICITY	IRRITATION
	Not Available	Not Available
Acetyl L-Carnitine-d3 Hydrochloride	TOXICITY	IRRITATION
	Not Available	Not Available
Palmitoyl-L-carnitine-d3 Hydrochloride	TOXICITY	IRRITATION
	Not Available	Not Available
Myristoyl-L-carnitine-d3 Hydrochloride	TOXICITY	IRRITATION
	Not Available	Not Available
Octanoyl L-Carnitine Chloride	TOXICITY	IRRITATION
	Not Available	Not Available
Isovaleryl L-Carnitine Chloride	TOXICITY	IRRITATION
	Not Available	Not Available
(R)-Butyryl Carnitine-d3 Chloride	TOXICITY	IRRITATION
	Not Available	Not Available
(R)-Propionyl Carnitine-d3 Chloride	TOXICITY	IRRITATION
	Not Available	Not Available
<b>Legend:</b>	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

LABELED CARNITINE STANDARDS SET B	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.
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Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✓	Reproductivity	✗
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✓
Respiratory or Skin sensitisation	✓	STOT - Repeated Exposure	✗

LABELLED CARNITINE STANDARDS SET B

Mutagenicity	✗	Aspiration Hazard	✗
Legend: ✗ – Data either not available or does not fill the criteria for classification ✔ – Data available to make classification			

SECTION 12 Ecological information

Toxicity

LABELLED CARNITINE STANDARDS SET B	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
L-CARNITINE (TRIMETHYL-D9, 98%	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Acetyl L-Carnitine-d3 Hydrochloride	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Palmitoyl-L-carnitine-d3 Hydrochloride	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Myristoyl-L-carnitine-d3 Hydrochloride	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Octanoyl L-Carnitine Chloride	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Isovaleryl L-Carnitine Chloride	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
(R)-Butyryl Carnitine-d3 Chloride	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
(R)-Propionyl Carnitine-d3 Chloride	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"><li>Containers may still present a chemical hazard/ danger when empty.</li><li>Return to supplier for reuse/ recycling if possible.</li></ul> Otherwise: <ul style="list-style-type: none"><li>If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.</li></ul>
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LABELED CARNITINE STANDARDS SET B

- ▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product.
- ▶ Recycle wherever possible or consult manufacturer for recycling options.
- ▶ Consult State Land Waste Management Authority for disposal.
- ▶ Bury residue in an authorised landfill.
- ▶ Recycle containers if possible, or dispose of in an authorised landfill.

SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
L-CARNITINE (TRIMETHYL-D9, 98%	Not Available
Acetyl L-Carnitine-d3 Hydrochloride	Not Available
Palmitoyl-L-carnitine-d3 Hydrochloride	Not Available
Myristoyl-L-carnitine-d3 Hydrochloride	Not Available
Octanoyl L-Carnitine Chloride	Not Available
Isovaleryl L-Carnitine Chloride	Not Available
(R)-Butyryl Carnitine-d3 Chloride	Not Available
(R)-Propionyl Carnitine-d3 Chloride	Not Available

Transport in bulk in accordance with the IGC Code

Product name	Ship Type
L-CARNITINE (TRIMETHYL-D9, 98%	Not Available
Acetyl L-Carnitine-d3 Hydrochloride	Not Available
Palmitoyl-L-carnitine-d3 Hydrochloride	Not Available
Myristoyl-L-carnitine-d3 Hydrochloride	Not Available
Octanoyl L-Carnitine Chloride	Not Available
Isovaleryl L-Carnitine Chloride	Not Available
(R)-Butyryl Carnitine-d3 Chloride	Not Available
(R)-Propionyl Carnitine-d3 Chloride	Not Available

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

L-CARNITINE (TRIMETHYL-D9, 98% is found on the following regulatory lists  
Not Applicable

Acetyl L-Carnitine-d3 Hydrochloride is found on the following regulatory lists  
Not Applicable

Palmitoyl-L-carnitine-d3 Hydrochloride is found on the following regulatory lists  
Not Applicable

Myristoyl-L-carnitine-d3 Hydrochloride is found on the following regulatory lists  
Not Applicable

Octanoyl L-Carnitine Chloride is found on the following regulatory lists  
Not Applicable

Isovaleryl L-Carnitine Chloride is found on the following regulatory lists

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(R)-Butyryl Carnitine-d3 Chloride is found on the following regulatory lists

Not Applicable

(R)-Propionyl Carnitine-d3 Chloride is found on the following regulatory lists

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	No (L-CARNITINE (TRIMETHYL-D9, 98%; Acetyl L-Carnitine-d3 Hydrochloride; Palmitoyl-L-carnitine-d3 Hydrochloride; Myristoyl-L-carnitine-d3 Hydrochloride; Octanoyl L-Carnitine Chloride; Isovaleryl L-Carnitine Chloride; (R)-Butyryl Carnitine-d3 Chloride; (R)-Propionyl Carnitine-d3 Chloride)
Canada - DSL	No (L-CARNITINE (TRIMETHYL-D9, 98%; Acetyl L-Carnitine-d3 Hydrochloride; Palmitoyl-L-carnitine-d3 Hydrochloride; Myristoyl-L-carnitine-d3 Hydrochloride; Octanoyl L-Carnitine Chloride; Isovaleryl L-Carnitine Chloride; (R)-Butyryl Carnitine-d3 Chloride; (R)-Propionyl Carnitine-d3 Chloride)
Canada - NDSL	No (L-CARNITINE (TRIMETHYL-D9, 98%; Acetyl L-Carnitine-d3 Hydrochloride; Palmitoyl-L-carnitine-d3 Hydrochloride; Myristoyl-L-carnitine-d3 Hydrochloride; Octanoyl L-Carnitine Chloride; Isovaleryl L-Carnitine Chloride; (R)-Butyryl Carnitine-d3 Chloride; (R)-Propionyl Carnitine-d3 Chloride)
China - IECSC	No (L-CARNITINE (TRIMETHYL-D9, 98%; Acetyl L-Carnitine-d3 Hydrochloride; Palmitoyl-L-carnitine-d3 Hydrochloride; Myristoyl-L-carnitine-d3 Hydrochloride; Octanoyl L-Carnitine Chloride; Isovaleryl L-Carnitine Chloride; (R)-Butyryl Carnitine-d3 Chloride; (R)-Propionyl Carnitine-d3 Chloride)
Europe - EINEC / ELINCS / NLP	No (L-CARNITINE (TRIMETHYL-D9, 98%; Acetyl L-Carnitine-d3 Hydrochloride; Palmitoyl-L-carnitine-d3 Hydrochloride; Myristoyl-L-carnitine-d3 Hydrochloride; Octanoyl L-Carnitine Chloride; Isovaleryl L-Carnitine Chloride; (R)-Butyryl Carnitine-d3 Chloride; (R)-Propionyl Carnitine-d3 Chloride)
Japan - ENCS	No (L-CARNITINE (TRIMETHYL-D9, 98%; Acetyl L-Carnitine-d3 Hydrochloride; Palmitoyl-L-carnitine-d3 Hydrochloride; Myristoyl-L-carnitine-d3 Hydrochloride; Isovaleryl L-Carnitine Chloride; (R)-Butyryl Carnitine-d3 Chloride; (R)-Propionyl Carnitine-d3 Chloride)
Korea - KECI	No (L-CARNITINE (TRIMETHYL-D9, 98%; Acetyl L-Carnitine-d3 Hydrochloride; Palmitoyl-L-carnitine-d3 Hydrochloride; Myristoyl-L-carnitine-d3 Hydrochloride; Octanoyl L-Carnitine Chloride; Isovaleryl L-Carnitine Chloride; (R)-Butyryl Carnitine-d3 Chloride; (R)-Propionyl Carnitine-d3 Chloride)
New Zealand - NZIoC	No (L-CARNITINE (TRIMETHYL-D9, 98%; Acetyl L-Carnitine-d3 Hydrochloride; Palmitoyl-L-carnitine-d3 Hydrochloride; Myristoyl-L-carnitine-d3 Hydrochloride; Octanoyl L-Carnitine Chloride; Isovaleryl L-Carnitine Chloride; (R)-Butyryl Carnitine-d3 Chloride; (R)-Propionyl Carnitine-d3 Chloride)
Philippines - PICCS	No (L-CARNITINE (TRIMETHYL-D9, 98%; Acetyl L-Carnitine-d3 Hydrochloride; Palmitoyl-L-carnitine-d3 Hydrochloride; Myristoyl-L-carnitine-d3 Hydrochloride; Octanoyl L-Carnitine Chloride; Isovaleryl L-Carnitine Chloride; (R)-Butyryl Carnitine-d3 Chloride; (R)-Propionyl Carnitine-d3 Chloride)
USA - TSCA	No (L-CARNITINE (TRIMETHYL-D9, 98%; Acetyl L-Carnitine-d3 Hydrochloride; Palmitoyl-L-carnitine-d3 Hydrochloride; Myristoyl-L-carnitine-d3 Hydrochloride; Octanoyl L-Carnitine Chloride; Isovaleryl L-Carnitine Chloride; (R)-Butyryl Carnitine-d3 Chloride; (R)-Propionyl Carnitine-d3 Chloride)
Taiwan - TCSI	No (L-CARNITINE (TRIMETHYL-D9, 98%; Acetyl L-Carnitine-d3 Hydrochloride; Palmitoyl-L-carnitine-d3 Hydrochloride; Myristoyl-L-carnitine-d3 Hydrochloride; Octanoyl L-Carnitine Chloride; Isovaleryl L-Carnitine Chloride; (R)-Butyryl Carnitine-d3 Chloride; (R)-Propionyl Carnitine-d3 Chloride)
Mexico - INSQ	No (L-CARNITINE (TRIMETHYL-D9, 98%; Acetyl L-Carnitine-d3 Hydrochloride; Palmitoyl-L-carnitine-d3 Hydrochloride; Myristoyl-L-carnitine-d3 Hydrochloride; Octanoyl L-Carnitine Chloride; Isovaleryl L-Carnitine Chloride; (R)-Butyryl Carnitine-d3 Chloride; (R)-Propionyl Carnitine-d3 Chloride)
Vietnam - NCI	No (L-CARNITINE (TRIMETHYL-D9, 98%; Acetyl L-Carnitine-d3 Hydrochloride; Palmitoyl-L-carnitine-d3 Hydrochloride; Myristoyl-L-carnitine-d3 Hydrochloride; Octanoyl L-Carnitine Chloride; Isovaleryl L-Carnitine Chloride; (R)-Butyryl Carnitine-d3 Chloride; (R)-Propionyl Carnitine-d3 Chloride)
Russia - FBEPH	No (L-CARNITINE (TRIMETHYL-D9, 98%; Acetyl L-Carnitine-d3 Hydrochloride; Palmitoyl-L-carnitine-d3 Hydrochloride; Myristoyl-L-carnitine-d3 Hydrochloride; Octanoyl L-Carnitine Chloride; Isovaleryl L-Carnitine Chloride; (R)-Butyryl Carnitine-d3 Chloride; (R)-Propionyl Carnitine-d3 Chloride)
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	29/05/2023
Initial Date	27/01/2023

SDS Version Summary

Version	Date of Update	Sections Updated
0.4	29/05/2023	Toxicological information - Chronic Health, Hazards identification - Classification, Disposal considerations - Disposal, Composition / information on ingredients - Ingredients, Exposure controls / personal protection - Personal Protection (hands/feet), Name

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average  
PC—STEL: Permissible Concentration-Short Term Exposure Limit

Continued...

**LABELED CARNITINE STANDARDS SET B**

IARC: International Agency for Research on Cancer  
ACGIH: American Conference of Governmental Industrial Hygienists  
STEL: Short Term Exposure Limit  
TEEL: Temporary Emergency Exposure Limit.  
IDLH: Immediately Dangerous to Life or Health Concentrations  
ES: Exposure Standard  
OSF: Odour Safety Factor  
NOAEL :No Observed Adverse Effect Level  
LOAEL: Lowest Observed Adverse Effect Level  
TLV: Threshold Limit Value  
LOD: Limit Of Detection  
OTV: Odour Threshold Value  
BCF: BioConcentration Factors  
BEI: Biological Exposure Index  
AII: Australian Inventory of Industrial Chemicals  
DSL: Domestic Substances List  
NDSL: Non-Domestic Substances List  
IECSC: Inventory of Existing Chemical Substance in China  
EINECS: European INventory of Existing Commercial chemical Substances  
ELINCS: European List of Notified Chemical Substances  
NLP: No-Longer Polymers  
ENCS: Existing and New Chemical Substances Inventory  
KECI: Korea Existing Chemicals Inventory  
NZIoC: New Zealand Inventory of Chemicals  
PICCS: Philippine Inventory of Chemicals and Chemical Substances  
TSCA: Toxic Substances Control Act  
TCSI: Taiwan Chemical Substance Inventory  
INSQ: Inventario Nacional de Sustancias Químicas  
NCI: National Chemical Inventory  
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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