# ROWE SCIENTIFIC

Chemwatch: 21-5910

Version No: 5.1.1.1 Safety Data Sheet according to WHS and ADG requirements

### SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

#### **Product Identifier**

Product name	Rowe Scientific Lithium Nitrate Solid
Chemical Name	lithium nitrate
Synonyms	CL1974
Proper shipping name	LITHIUM NITRATE
Other means of identification	Not Available

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

Relevant identified uses Laboratory chemical.

## Details of the supplier of the safety data sheet

Registered company name	ROWE SCIENTIFIC
Address	11 Challenge Boulevard Wangara WA 6065 Australia
Telephone	+61 8 9302 1911
Fax	+61 8 9302 1905
Website	http://rowe.com.au/
Email	rowewa@rowe.com.au

#### Emergency telephone number

• • •	
Association / Organisation	ROWE SCIENTIFIC
Emergency telephone numbers	+61 8 9302 1911 (24 Hrs)
Other emergency telephone numbers	Not Available

# **SECTION 2 HAZARDS IDENTIFICATION**

### Classification of the substance or mixture

## HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

Poisons Schedule Not Applicable		
Classification <sup>[1]</sup>	1) Oxidizing Liquid Category 3, Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Acute Aquatic Hazard Category 3	
Legend:	1. Classified by Chernwatch; 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)
 Harmful fire; oxidiser.

 H1902
 Harmful if swallowed.

 H315
 Causes skin irritation.

 H319
 Causes serious eye irritation.

 H335
 May cause respiratory irritation.

 H402
 Harmful to aquatic life.

# Precautionary statement(s) Prevention

	P210	Keep away from heat/sparks/open flames/hot surfaces No smoking.
P221 lake any precaution to avoid mixing with combustibles/organic material.	P221	Take any precaution to avoid mixing with combustibles/organic material.

Chemwatch Hazard Alert Code: 2

Issue Date: 29/05/2020 Print Date: 29/05/2020

S.GHS.AUS.EN

P271	Use only outdoors or in a well-ventilated area.
P220	Keep/Store away from clothing/organic material/combustible materials.
P261	Avoid breathing dust/fumes.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

#### Precautionary statement(s) Response

P321	Specific treatment (see advice on this label).
P362	Take off contaminated clothing and wash before reuse.
P370+P378	In case of fire: Use water jets for extinction.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P330	Rinse mouth.
P332+P313	If skin irritation 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.

#### SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

#### Substances

See section below for composition of Mixtures

#### Mixtures

CAS No	%[weight]	Name
7790-69-4	>=99	lithium nitrate

## SECTION 4 FIRST AID MEASURES

escription of first aid measures	
Eye Contact	<ul> <li>If this product comes in contact with the eyes:</li> <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	<ul> <li>If skin contact occurs:</li> <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> <li>If dust is inhaled, remove from contaminated area.</li> <li>Encourage patient to blow nose to ensure clear passage of breathing.</li> <li>If irritation or discomfort persists seek medical attention.</li> </ul>
Ingestion	<ul> <li>If swallowed do NOT induce vomiting.</li> <li>If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>Observe the patient carefully.</li> <li>Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>Seek medical advice.</li> </ul>

# Indication of any immediate medical attention and special treatment needed

Clinical effects of lithium intoxication appear to relate to duration of exposure as well as to level.

- + Lithium produces a generalised slowing of the electroencephalogram; the anion gap may increase in severe cases.
- Emesis (or lavage if the patient is obtunded or convulsing) is indicated for ingestions exceeding 40 mg (Li)/Kg.
- Overdose may delay absorption; decontamination measures may be more effective several hours after cathartics.
- Charcoal is not useful. No clinical data are available to guide the administration of catharsis.
- Haemodialysis significantly increases lithium clearance; indications for haemodialysis include patients with serum levels above 4 meq/L.

There are no antidotes.

[Ellenhorn and Barceloux: Medical Toxicology]

The toxicity of nitrates and nitrites result from their vasodilating properties and their propensity to form methaemoglobin.

Most produce a peak effect within 30 minutes.

## Issue Date: 29/05/2020 Print Date: 29/05/2020

- Clinical signs of cyanosis appear before other symptoms because of the dark pigmentation of methaemoglobin.
- Initial attention should be directed towards improving oxygen delivery, with assisted ventilation, if necessary. Hyperbaric oxygen has not demonstrated conclusive benefits.
- ▶ Institute cardiac monitoring, especially in patients with coronary artery or pulmonary disease.
- Hypotension should respond to Trendelenburg's position and intravenous fluids; otherwise dopamine may be needed.
- ▶ Naloxone, glucose and thiamine should be given if a multiple ingestion is suspected.
- Decontaminate using Ipecac Syrup for alert patients or lavage for obtunded patients who present within 2-4 hours of ingestion.
- Symptomatic patients with methaemoglobin levels over 30% should receive methylene blue.(Cyanosis alone, is not an indication for treatment). The usual dose is 1-2 mg/kg of a 1% solution (10 mg/ml) IV over 5 minutes; repeat, using the same dose if symptoms of hypoxia fail to subside within 1 hour.

[Ellenhorn and Barceloux: Medical Toxicology]

### **BIOLOGICAL EXPOSURE INDEX - BEI**

These represent the determinants observed in specimens collected from a healthy worker who has been exposed at the Exposure Standard (ES or TLV):

 Determinant
 Index
 Sampling Time
 Comments

 1. Methaemoglobin in blood
 1.5% of haemoglobin
 During or end of shift
 B,NS,SQ

B: Background levels occur in specimens collected from subjects **NOT** exposed

NS: Non-specific determinant; also observed after exposure to other materials

SQ: Semi-quantitative determinant - Interpretation may be ambiguous; should be used as a screening test or confirmatory test.

### SECTION 5 FIREFIGHTING MEASURES

#### Extinguishing media

- Jets of water.
- Water spray or fog.
- Foam.
- Dry chemical powder.BCF (where regulations permit).
- Carbon dioxide.

#### Special hazards arising from the substrate or mixture

Fire Incompatibility	<ul> <li>Oxidising agents as a class are not necessarily combustible themselves, but can increase the risk and intensity of fire in many other substances.</li> </ul>
dvice for firefighters	
Fire Fighting	<ul> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>May be violently or explosively reactive.</li> <li>Wear breathing apparatus plus protective gloves.</li> <li>Prevent, by any means available, spillage from entering drains or water course.</li> <li>Fight fire from a safe distance, with adequate cover.</li> <li>Extinguishers should be used only by trained personnel.</li> <li>Use water delivered as a fine spray to control fire and cool adjacent area.</li> <li>Avoid spraying water onto liquid pools.</li> <li>DO NOT approach containers suspected to be hot.</li> <li>Cool fire exposed containers with water spray from a protected location.</li> <li>If safe to do so, remove containers from path of fire.</li> <li>If fire gets out of control withdraw personnel and warn against entry.</li> <li>Equipment should be thoroughly decontaminated after use.</li> </ul>
Fire/Explosion Hazard	<ul> <li>Will not burn but increases intensity of fire.</li> <li>May explode from friction, shock, heat or containment.</li> <li>Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>Heat affected containers remain hazardous.</li> <li>Contact with combustibles such as wood, paper, oil or finely divided metal may produce spontaneous combustion or violent decomposition.</li> <li>May emit irritating, poisonous or corrosive fumes.</li> <li>Combustion/decomposition may produce acrid/toxic fumes of carbon monoxide (CO).</li> </ul>
HAZCHEM	1Z

## 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

Minor Spills	<ul> <li>Clean up all spills immediately.</li> <li>No smoking, naked lights, ignition sources.</li> <li>Avoid all contact with any organic matter including fuel, solvents, sawdust, paper or cloth and other incompatible materials, as ignition may result.</li> <li>Avoid breathing dust or vapours and all contact with skin and eyes.</li> <li>Control personal contact with the substance, by using protective equipment.</li> <li>Contain and absorb spill with dry sand, earth, inert material or vermiculite.</li> <li>DO NOT use sawdust as fire may result.</li> </ul>
--------------	---

	<ul> <li>Scoop up solid residues and seal in labelled drums for disposal.</li> </ul>
	► Neutralise/decontaminate area.
Major Spills	<ul> <li>Clear area of personnel and move upwind.</li> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>May be violently or explosively reactive.</li> <li>Wear breathing apparatus and protective gloves.</li> <li>Prevent, by any means available, spillage from entering drains or water courses.</li> <li>No smoking, flames or ignition sources.</li> <li>Increase ventilation.</li> <li>Contain spill with sand, earth or other clean, inert materials.</li> <li>NEVER USE organic absorbents such as sawdust, paper or cloth.</li> <li>Use spark-free and explosion-proof equipment.</li> <li>Collect any recoverable product into labelled containers for possible recycling.</li> <li>Avoid contamination with organic matter to prevent subsequent fire and explosion.</li> <li>DO NOT mix fresh with recovered material.</li> <li>Collect residues and seal in labelled drums for disposal.</li> <li>Wash area and prevent runoff into drains.</li> <li>Decontaminate equipment and launder protective clothing before storage and re-use.</li> </ul>
	If contamination of drains or waterways occurs advise emergency services.

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

#### SECTION 7 HANDLING AND STORAGE

#### Precautions for safe handling Avoid personal contact and inhalation of dust, mist or vapours. Always wear protective equipment and wash off any spillage on clothing. Use in well ventilated areas, prevent accumulation of vapours. ▶ Keep material away from light, heat, ignition sources, flammables or combustibles. Keep dry and away from incompatible materials. Keep cool and below defined Control Temperature. Avoid friction, shock or containment. Use non-sparking equipment. Safe handling Avoid physical damage to containers DO NOT repack or return unused portions to original container. Withdraw only sufficient material for immediate use. Contamination can cause VIOLENT DECOMPOSITION with intense heat and fire. ▶ Ensure proper rotation of stocks to limit decomposition and instability which may occur on long storage. When handling NEVER smoke, eat or drink. Always wash hands with soap and water after handling. Use only good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Store in original containers. Keep containers securely sealed as supplied. Store in a cool, well ventilated area. Keep dry. Store under cover and away from sunlight. Other information • Store away from flammable or combustible materials, debris and waste. Contact may cause fire or violent reaction. Store away from incompatible materials and foodstuff containers. DO NOT stack on wooden floors or pallets Protect containers from physical damage. Check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul> <li>Glass container is suitable for laboratory quantities</li> </ul>
Storage incompatibility	<ul> <li>for metal nitrates:</li> <li>Segregate from heavy metals, phosphides, sodium acetate, lead nitrate, tartrates, trichloroethylene,</li> <li>Avoid shock and heat.</li> <li>Mixtures of metal nitrates with alkyl esters may explode due to the formation of unstable alkyl nitrates.</li> <li>Mixtures of a nitrate with phosphorous, tin(II) chloride and other reducing agents may react explosively.</li> <li>Mixtures containing nitrates and organic materials are potentially dangerous, especially if acidic materials or heavy metals are present.</li> <li>Fibrous organic material, jute, wood and similar cellulosic material can become highly combustible by nitrate impregnation</li> <li>Metal nitrates are incompatible with cyanides, thiocyanates, isothiocyanates and hypophosphites. Avoid reaction with the following which can cause an explosion: barium thiocyanate, boron phosphide, cyanides, sodium hypophosphite, sulfur and charcoal, powdered aluminium or aluminium oxide, sodium thiosulfate.</li> <li>Mixtures of metal nitrates and phosphinates may explode on heating</li> <li>A mixture of aluminium powder, water and metal nitrate may explode due to a self accelerating reaction.</li> <li>Mixtures containing nitrates, nitrites and organic materials are potentially dangerous, especially in the presence of acidic materials and heav metals</li> </ul>



X — Must not be stored together

**0** — May be stored together with specific preventions

+ — May be stored together

# SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

#### **Control parameters**

Body protection

See Other protection below

Control parameters						
OCCUPATIONAL EXPOSURE LIN	IITS (OEL)					
INGREDIENT DATA Not Available						
EMERGENCY LIMITS						
Ingredient	Material name	TEEL-1		TEEL-2	TEEL-3	
lithium nitrate	Lithium nitrate	30 mg/m3		330 mg/m3	2,000 mg	/m3
Ingredient	Original IDLH			Revised IDLH		
lithium nitrate	Not Available			Not Available		
OCCUPATIONAL EXPOSURE BA	NDING					
Ingredient	Occupational Exposure Band Rating			Occupational Exposure B	and Limit	
lithium nitrate	E			≤ 0.01 mg/m <sup>3</sup>		
Notes:	Occupational exposure banding is a process of assigning chemicals into s adverse health outcomes associated with exposure. The output of this pro range of exposure concentrations that are expected to protect worker heal			ess is an occupational expo		
Exposure controls						
Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ve "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed prop ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure. General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in specific overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate or closed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in tur velocities" of fresh circulating air required to effectively remove the contaminant. Type of Contaminant: solvent, vapours, degreasing etc., evaporating from tank (in still air).				i designed proper ired in specific cii ovide adequate v ies which, in turn	ly. The design of a cumstances. If risk of entilation in warehouse	
Appropriate engineering controls	aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray       0.5-1 m/s (100-200 f/min.)         drift, plating acid fumes, pickling (released at low velocity into zone of active generation)       f/min.)         direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)       1-2.5 m/s (200-500 f/min.)					
	grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of 2.5-10 m/s			1		
	Within each range the appropriate value d	lepends on:	1			
	Lower end of the range		Upper end o	f the range		
	1: Room air currents minimal or favoura	ble to capture	1: Disturbing	bing room air currents		
	2: Contaminants of low toxicity or of nuis	sance value only.	2: Contamin	aminants of high toxicity		
	3: Intermittent, low production.			uction, heavy use		
	4: Large hood or large air mass in motio	n	4: Small hoc	d-local control only		
	Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decrease with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimul 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerativ producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 o more when extraction systems are installed or used.					ould be adjusted, , should be a minimum o echanical considerations
Personal protection						
Eye and face protection	<ul> <li>Safety glasses with side shields; or as required,</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. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]</li> </ul>					
Skin protection	See Hand protection below					
Hands/feet protection	Wear chemical protective gloves, e.g. PV0 Wear safety footwear.	C.				
Bedy protection	See Other protection below					

Other protection

Overalls.
 Evewash unit.

### **Respiratory protection**

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, 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(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Appearance	Odourless, colourless, deliquescent crystals or powder. Soluble in water and alcohol. Strong oxidising agent.		
Physical state	Divided Solid	Relative density (Water = 1)	2.38
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Applicable	Decomposition temperature	Not Available
Melting point / freezing point (°C)	255-264	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	69.96
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Applicable	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Applicable
Vapour pressure (kPa)	Not Applicable	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	7
Vapour density (Air = 1)	>1	VOC g/L	Not Available

### SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul> <li>Unstable in the presence of incompatible materials.</li> <li>Unstable under normal storage, requires special storage conditions.</li> <li>Prolonged exposure to heat above control temperature.</li> <li>Presence of shock and/or friction.</li> <li>Hazardous decomposition will 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

# SECTION 11 TOXICOLOGICAL INFORMATION

### Information on toxicological effects

Inhaled	The dust may be discomforting 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 is moderately discomforting The substance and/or its metabolites may bind to haemoglobin inhibiting normal uptake of oxygen. This condition, known as "methaemoglobinemia", is a form of oxygen starvation (anoxia). Symptoms include cyanosis (a bluish discolouration skin and mucous membranes) and breathing difficulties. Symptoms may not be evident until several hours after exposure. At about 15% concentration of blood methaemoglobin there is observable cyanosis of the lips, nose and earlobes. Symptoms may be absent although euphoria, flushed face and headache are commonly experienced. At 25-40%, cyanosis is marked but little disability occurs other than that produced on physical exertion. At 40-60%, symptoms include weakness, dizziness, lightheadedness, increasingly severe headache, ataxia, rapid shallow respiration, drowsiness, nausea, vomiting, confusion, lethargy and stupor. Above 60% symptoms include dyspnea, respiratory depression, tachycardia or bradycardia, and convulsions. Levels exceeding 70% may be fatal. Lithium, in large doses, can cause dizziness and weakness. If a low salt diet is in place, kidney damage can result.			
Skin Contact	Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons. Open cuts, abraded or irritated skin should not be exposed to this material Toxic effects may result from skin absorption			
Eye	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.			
Chronic	Lithium compounds can affect the nervous system and muscle. This can cause tremor, inco-ordination, spastic jerks and very brisk reflexes.			
Rowe Scientific Lithium Nitrate Solid	TOXICITY Not Available	IRRITATION Not Available		
lithium nitrate	TOXICITY           dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup> Oral (rat) LD50: 1317 mg/kg <sup>[1]</sup>	IRRITATION Eye: adverse effect observed (irritating) <sup>[1]</sup> Skin: no adverse effect observed (not irritating) <sup>[1]</sup>		
Legend:	1. Value obtained from Europe ECHA Registered Sub specified data extracted from RTECS - Register of To	ostances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise xic Effect of chemical Substances		

LITHIUM NITRATE	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. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production. No significant acute toxicological data identified in literature search.			
Acute Toxicity	✓	Carcinogenicity	×	
Skin Irritation/Corrosion	✓	Reproductivity	×	
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✓	
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×	
Mutagenicity	×	Aspiration Hazard	×	
	·	Legend: 🗙 – Data either r	not available or does not fill the criteria for classification	

седена: 🗙 –

Data entries not available of does not milling of one of the original for one original for one original for one original for one original

# **SECTION 12 ECOLOGICAL INFORMATION**

Toxicity

Rowe Scientific Lithium Nitrate Solid	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	ca.6-mg/L	2
lithium nitrate	EC50	48	Crustacea	ca.2-612mg/L	2
	EC50	72	Algae or other aquatic plants	112mg/L	2
	NOEC	504	Crustacea	1.7mg/L	2

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 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

	<ul> <li>Recycle wherever possible. Special hazards may exist - specialist advice may be required.</li> <li>Consult manufacturer for recycling options.</li> <li>Consult State Land Waste Management Authority for disposal.</li> <li>Incinerate residue at an approved site.</li> <li>Decontaminate empty containers.</li> <li>Observe all label safeguards until containers are cleaned and destroyed.</li> </ul>
Product / Packaging disposal	<ul> <li>Puncture containers to prevent reuse and bury at an authorised land fill.</li> <li>For small quantities:</li> <li>Neutralise an aqueous solution of the material.</li> <li>Filter solids for disposal to approved land fill.</li> </ul>
	<ul> <li>Flush solution to sewer (subject to local regulation)</li> <li>Heat and fumes evolved during reaction may be controlled by rate of addition.</li> </ul>

## **SECTION 14 TRANSPORT INFORMATION**

# Labels Required



	51
Marine Pollutant	NO
HAZCHEM	1Z

## Land transport (ADG)

UN number	2722		
UN proper shipping name	LITHIUM NITRATE		
Transport hazard class(es)	Class 5.1 Subrisk Not Applicable		
Packing group	III		
Environmental hazard	Not Applicable		
Special precautions for user	Special provisions     Not Applicable       Limited quantity     5 kg		

## Air transport (ICAO-IATA / DGR)

UN number	2722			
UN proper shipping name	Lithium nitrate			
	ICAO/IATA Class	5.1		
Transport hazard class(es)	ICAO / IATA Subrisk	Not Applicable		
	ERG Code	5L		
Packing group	II			
Environmental hazard	Not Applicable			
Special precautions for user	Special provisions		A803	
	Cargo Only Packing Instructions		563	
	Cargo Only Maximum Qty / Pack		100 kg	
	Passenger and Cargo Packing Instructions		559	
	Passenger and Cargo Maximum Qty / Pack		25 kg	
	Passenger and Cargo Limited Quantity Packing Instructions		Y546	
	Passenger and Cargo Limited Maximum Qty / Pack		10 kg	

### Sea transport (IMDG-Code / GGVSee)

UN number	2722		
UN proper shipping name	LITHIUM NITRATE		
Transport hazard class(es)	IMDG Class     5.1       IMDG Subrisk     Not Applicable		
Packing group	II		
Environmental hazard	Not Applicable		
Special precautions for user	EMS NumberF-A , S-QSpecial provisionsNot ApplicableLimited Quantities5 kg		

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

Not Applicable

### **SECTION 15 REGULATORY INFORMATION**

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

#### LITHIUM NITRATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

### **National Inventory Status**

National Inventory	Status		
Australia - AICS	Yes		
Canada - DSL	Yes		
Canada - NDSL	No (lithium nitrate)		
China - IECSC	Yes		
Europe - EINEC / ELINCS / NLP	Yes		
Japan - ENCS	Yes		
Korea - KECI	Yes		
New Zealand - NZIoC	Yes		
Philippines - PICCS	Yes		
USA - TSCA	Yes		
Taiwan - TCSI	Yes		
Mexico - INSQ	Yes		
Vietnam - NCI	Yes		
Russia - ARIPS	Yes		
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)		

### **SECTION 16 OTHER INFORMATION**

Revision Date	29/05/2020
Initial Date	19/06/2009

### SDS Version Summary

Version	Issue Date	Sections Updated	
4.1.1.1	01/11/2019	One-off system update. NOTE: This may or may not change the GHS classification	
5.1.1.1	29/05/2020	Name	

#### Other information

## Ingredients with multiple cas numbers

Name	CAS No	
lithium nitrate	7790-69-4, 57137-39-0, 66582-90-9, 13453-76-4	

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 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 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

This document is copyright.

Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH.

TEL (+61 3) 9572 4700.

