

# Paslode - STOCKade Lithium Ion Battery Cell

## Paslode (Paslode Australia)

Chemwatch: 4776-72  
Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Issue Date: 01/11/2019  
Print Date: 19/07/2021  
Initial Date: 18/01/2012  
L.GHS.AUS.EN

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

#### Product Identifier

Product name	Paslode - STOCKade Lithium Ion Battery Cell
Chemical Name	Not Applicable
Synonyms	Part numbers B20543A, ST4IBAT
Proper shipping name	LITHIUM ION BATTERIES (including lithium ion polymer batteries)
Chemical formula	Not Applicable
Other means of identification	Not Available

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

Relevant identified uses	Battery. NOTE: Chemical materials are stored in sealed case. The toxic properties of the electrode materials are hazardous only if the materials are released by damaging the cell or if exposed to fire. The sealed battery is not hazardous in normal use. The chemical hazards are related to the leaked battery contents. If Transport Code Special Provision 188 applies the batteries will be unregulated for transport. SDS are intended for use in the workplace. For domestic-use products, refer to consumer labels.
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#### Details of the supplier of the safety data sheet

Registered company name	Paslode (Paslode Australia)
Address	47-55 Williamson Road Ingleburn 2565 NSW Australia
Telephone	+61 2 9829 4000
Fax	Not Available
Website	www.paslode.com.au
Email	cust.sales.au@paslodeanz.com

#### Emergency telephone number

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

### SECTION 2 Hazards identification

#### Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification [1]	Not Applicable

#### Label elements

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

#### Hazard statement(s)

#### Precautionary statement(s) Prevention

Not Applicable

#### Precautionary statement(s) Response

Not Applicable

#### Precautionary statement(s) Storage

Not Applicable

#### Precautionary statement(s) Disposal

Not Applicable

### SECTION 3 Composition / information on ingredients

#### Substances

See section below for composition of Mixtures

#### Mixtures

CAS No	%[weight]	Name
		sealed metal case containing
		lithium transition metal oxidate as
12190-79-3	NotSpec	<u>lithium cobaltate</u>
12057-17-9	NotSpec	<u>lithium manganate</u>
182442-95-1	NotSpec	<u>cobalt lithium manganese nickelate</u>
7439-89-6	NotSpec	<u>iron</u>
7429-90-5	NotSpec	<u>aluminium</u>
7782-42-5	NotSpec	<u>graphite, natural</u>
7440-44-0	NotSpec	<u>carbon, non-activated</u>
7440-50-8	NotSpec	<u>copper</u>
	NotSpec	electrolyte, organic
		NOTE: Not every product includes all of these ingredients

#### SECTION 4 First aid measures

##### Description of first aid measures

General	
Eye Contact	<ul style="list-style-type: none"> <li>▶ Generally not applicable.</li> <li>If this product comes in contact with the eyes:               <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> </li> </ul>
Skin Contact	<ul style="list-style-type: none"> <li>▶ Generally not applicable.</li> <li>If skin or hair contact occurs:               <ul style="list-style-type: none"> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul> </li> </ul>
Inhalation	<ul style="list-style-type: none"> <li>▶ Generally not applicable.</li> <li>Remove patient to fresh air and seek medical attention.</li> </ul>
Ingestion	<ul style="list-style-type: none"> <li>▶ Not considered a normal route of entry.</li> <li>▶ <b>If swallowed do NOT induce vomiting.</b></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

Treat symptomatically.

#### SECTION 5 Firefighting measures

##### Extinguishing media

	<ul style="list-style-type: none"> <li>▶ Dry chemical powder.</li> <li>▶ BCF (where regulations permit).</li> <li>▶ Carbon dioxide.</li> </ul>
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##### Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
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##### Advice for firefighters

Fire Fighting	<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> <li>▶ <b>DO NOT</b> 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>▶ Equipment should be thoroughly decontaminated after use.</li> </ul>
Fire/Explosion Hazard	<p>If heated above 125 deg C, cell(s) can explode/vent. Internal organic material will burn if the cell is incinerated.</p> <ul style="list-style-type: none"> <li>▶ Non combustible.</li> <li>▶ Not considered to be a significant fire risk.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ May emit acrid smoke. May emit corrosive and poisonous fumes.</li> </ul> <p>Decomposes on heating and produces toxic fumes of: carbon monoxide (CO)</p>

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carbon dioxide (CO2)  
hydrogen fluoride

## SECTION 6 Accidental release measures

## Personal precautions, protective equipment and emergency procedures

<b>Minor Spills</b>	Clean up all spills immediately. Avoid contact with skin and eyes. Place in suitable containers for disposal.
<b>Major Spills</b>	<ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Wear protective clothing, safety glasses, dust mask, gloves.</li> <li>▶ Secure load if safe to do so. Bundle/collect recoverable product.</li> <li>▶ Use dry clean up procedures and avoid generating dust.</li> <li>▶ Vacuum up (consider explosion-proof machines designed to be grounded during storage and use).</li> <li>▶ Water may be used to prevent dusting.</li> <li>▶ Collect remaining material in containers with covers for disposal.</li> <li>▶ Flush spill area with water.</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>	Avoid short circuiting the cell. Avoid mechanical damage of the cell. Do not open or disassemble. Do not connect the positive terminal to the negative terminal with electrical wire or chain. Avoid polarity reverse connection when installing the battery to an instrument. Do not wet the battery with water, seawater or acid; or expose to strong oxidizer. Keep the battery away from heat and fire. Do not disassemble or reconstruct the battery; or solder the battery directly. Do not give a mechanical shock or deform. Do not use unauthorized charger or other charging method. Terminate charging when the charging process does not end within specified time. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Avoid physical damage to containers.
<b>Other information</b>	<p>Store at room temperature - approx. 20 deg C.</p> <ul style="list-style-type: none"> <li>▶ Store in original containers.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ Store in a cool, dry, well-ventilated area.</li> <li>▶ Store away from incompatible materials and foodstuff containers.</li> <li>▶ Protect containers against physical damage and check regularly for leaks.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>▶ Keep dry.</li> <li>▶ Store under cover.</li> <li>▶ Protect containers against physical damage.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul> <p>Keep out of reach of children. Store out of direct sunlight</p> <ul style="list-style-type: none"> <li>▶ Store away from incompatible materials.</li> </ul>

## Conditions for safe storage, including any incompatibilities

<b>Suitable container</b>	Store in original containers.
<b>Storage incompatibility</b>	▶ Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.

## SECTION 8 Exposure controls / personal protection

## Control parameters

## Occupational Exposure Limits (OEL)

## INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	lithium manganate	Manganese, dust & compounds (as Mn)	1 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	cobalt lithium manganese nickelate	Manganese, dust & compounds (as Mn)	1 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	aluminium	Aluminium, pyro powders (as Al)	5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	aluminium	Aluminium (metal dust)	10 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	aluminium	Aluminium (welding fumes) (as Al)	5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	graphite, natural	Graphite (all forms except fibres) (respirable dust) (natural & synthetic)	3 mg/m3	Not Available	Not Available	(e) Containing no asbestos and < 1% crystalline silica.
Australia Exposure Standards	copper	Copper (fume)	0.2 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	copper	Copper, dusts & mists (as Cu)	1 mg/m3	Not Available	Not Available	Not Available

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Emergency Limits


Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
iron	Not Available	3.2 mg/m3	35 mg/m3	150 mg/m3
graphite, natural	Not Available	6 mg/m3	330 mg/m3	2,000 mg/m3
carbon, non-activated	Not Available	6 mg/m3	330 mg/m3	2,000 mg/m3
copper	Not Available	3 mg/m3	33 mg/m3	200 mg/m3

Ingredient	Original IDLH	Revised IDLH
lithium cobaltate	Not Available	Not Available
lithium manganate	500 mg/m3	Not Available
cobalt lithium manganese nickelate	500 mg/m3 / 10 mg/m3	Not Available
iron	Not Available	Not Available
aluminium	Not Available	Not Available
graphite, natural	1,250 mg/m3	Not Available
carbon, non-activated	Not Available	Not Available
copper	100 mg/m3	Not Available

MATERIAL DATA

None assigned. Refer to individual constituents.

Exposure controls

Appropriate engineering controls	General exhaust is adequate under normal operating conditions.
Personal protection	
Eye and face protection	None under normal operating conditions. <b>OTHERWISE:</b> ▸ Safety glasses.
Skin protection	See Hand protection below
Hands/feet protection	None under normal operating conditions. <b>OTHERWISE:</b> ▸ Rubber Gloves
Body protection	See Other protection below
Other protection	No special equipment needed when handling small quantities
Thermal hazards	Not Available

Respiratory protection

Not Available

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Metallic or black coloured ; cylindrical/ prismatic/ prismatic (laminated) solid with no odour; insoluble in water.		
Physical state	Manufactured	Relative density (Water = 1)	Not Applicable
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)	Not Applicable	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	Not Applicable	Molecular weight (g/mol)	Not Applicable
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	Immiscible	pH as a solution (%)	Not Applicable
Vapour density (Air = 1)	Not Applicable	VOC g/L	Not Available

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**SECTION 10 Stability and reactivity**

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	May form hydrofluoric acid if electrolyte comes into contact with water. Product is considered stable and hazardous polymerisation will not occur.
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

**SECTION 11 Toxicological information**

**Information on toxicological effects**

<b>Inhaled</b>	Vapors or fumes may cause respiratory tract irritation. Not normally a hazard due to physical form of product.
<b>Ingestion</b>	Not normally a hazard due to physical form of product. Accidental ingestion of the material may be damaging to the health of the individual.
<b>Skin Contact</b>	The electrolyte may cause skin irritation. Not normally a hazard due to physical form of product.
<b>Eye</b>	The electrolyte may cause eye irritation and damage. Not normally a hazard due to physical form of product.
<b>Chronic</b>	The chemicals in this product are contained in a sealed case and exposure does not occur during normal handling and use.

<b>Paslode - STOCKade Lithium Ion Battery Cell</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (Rat) LD50: >2000 mg/kg	
<b>Paslode - STOCKade Lithium Ion Battery Cell</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (Rat) LD50: >2000 mg/kg	
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	Oral (Rat) LD50: >2000 mg/kg	
<b>Paslode - STOCKade Lithium Ion Battery Cell</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (Rat) LD50: >2000 mg/kg	
<b>Paslode - STOCKade Lithium Ion Battery Cell</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (Rat) LD50: >2000 mg/kg	

**Legend:** 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

<b>Paslode - STOCKade Lithium Ion Battery Cell</b>	<p>Allergic reactions which develop in the respiratory passages as bronchial asthma or rhinoconjunctivitis, are mostly the result of reactions of the allergen with specific antibodies of the IgE class and belong in their reaction rates to the manifestation of the immediate type. In addition to the allergen-specific potential for causing respiratory sensitisation, the amount of the allergen, the exposure period and the genetically determined disposition of the exposed person are likely to be decisive. Factors which increase the sensitivity of the mucosa may play a role in predisposing a person to allergy. They may be genetically determined or acquired, for example, during infections or exposure to irritant substances. Immunologically the low molecular weight substances become complete allergens in the organism either by binding to peptides or proteins (haptens) or after metabolism (prohaptens).</p> <p>Particular attention is drawn to so-called atopic diathesis which is characterised by an increased susceptibility to allergic rhinitis, allergic bronchial asthma and atopic eczema (neurodermatitis) which is associated with increased IgE synthesis.</p> <p>Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure.</p> <p>Goitrogenic: Goitrogens are substances that suppress the function of the thyroid gland by interfering with iodine uptake, which can, as a result, cause an enlargement of the thyroid, i.e., a goitre Goitrogens include:  <ul style="list-style-type: none"> <li>▸ Vitexin, a flavanoid, which inhibits thyroid peroxidase thus contributing to goiter.</li> </ul> </p>
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## Paslode - STOCKade Lithium Ion Battery Cell

	<ul style="list-style-type: none"> <li>▶ Ions such as thiocyanate and perchlorate which decrease iodide uptake by competitive inhibition; as a consequence of reduced thyroxine and triiodothyronine secretion by the gland, at low doses, this causes an increased release of thyrotropin (by reduced negative feedback), which then stimulates the gland.</li> <li>▶ Lithium which inhibits thyroid hormone release.</li> <li>▶ Certain foods, such as soy and millet (containing vitexins) and vegetables in the genus Brassica (e.g. broccoli, brussels sprouts, cabbage, horseradish).</li> <li>▶ Caffeine (in coffee, tea, cola, chocolate) which acts on thyroid function as a suppressant.</li> </ul>		
Paslode - STOCKade Lithium Ion Battery Cell	<p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. 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. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.</p> <p>* Timcal MSDS</p>		
Paslode - STOCKade Lithium Ion Battery Cell	Substance has been investigated as a reproductive effector.		
Paslode - STOCKade Lithium Ion Battery Cell	<p>WARNING: Inhalation of high concentrations of copper fume may cause "metal fume fever", an acute industrial disease of short duration. Symptoms are tiredness, influenza like respiratory tract irritation with fever.</p> <p>for copper and its compounds (typically copper chloride):</p> <p><b>Acute toxicity:</b> There are no reliable acute oral toxicity results available. In an acute dermal toxicity study (OECD TG 402), one group of 5 male rats and 5 groups of 5 female rats received doses of 1000, 1500 and 2000 mg/kg bw via dermal application for 24 hours. The LD50 values of copper monochloride were 2,000 mg/kg bw or greater for male (no deaths observed) and 1,224 mg/kg bw for female. Four females died at both 1500 and 2000 mg/kg bw, and one at 1,000 mg/kg bw. Symptom of the hardness of skin, an exudation of hardness site, the formation of scar and reddish changes were observed on application sites in all treated animals. Skin inflammation and injury were also noted. In addition, a reddish or black urine was observed in females at 2,000, 1,500 and 1,000 mg/kg bw. Female rats appeared to be more sensitive than male based on mortality and clinical signs.</p> <p>No reliable skin/eye irritation studies were available. The acute dermal study with copper monochloride suggests that it has a potential to cause skin irritation.</p> <p><b>Repeat dose toxicity:</b> In repeated dose toxicity study performed according to OECD TG 422, copper monochloride was given orally (gavage) to Sprague-Dawley rats for 30 days to males and for 39 - 51 days to females at concentrations of 0, 1.3, 5.0, 20, and 80 mg/kg bw/day. The NOAEL value was 5 and 1.3 mg/kg bw/day for male and female rats, respectively. No deaths were observed in male rats. One treatment-related death was observed in female rats in the high dose group. Erythropoietic toxicity (anaemia) was seen in both sexes at the 80 mg/kg bw/day. The frequency of squamous cell hyperplasia of the forestomach was increased in a dose-dependent manner in male and female rats at all treatment groups, and was statistically significant in males at doses of =20 mg/kg bw/day and in females at doses of =5 mg/kg bw/day doses. The observed effects are considered to be local, non-systemic effect on the forestomach which result from oral (gavage) administration of copper monochloride.</p> <p><b>Genotoxicity:</b> An in vitro genotoxicity study with copper monochloride showed negative results in a bacterial reverse mutation test with Salmonella typhimurium strains (TA 98, TA 100, TA 1535, and TA 1537) with and without S9 mix at concentrations of up to 1,000 ug/plate. An in vitro test for chromosome aberration in Chinese hamster lung (CHL) cells showed that copper monochloride induced structural and numerical aberrations at the concentration of 50, 70 and 100 ug/mL without S9 mix. In the presence of the metabolic activation system, significant increases of structural aberrations were observed at 50 and 70 ug/mL and significant increases of numerical aberrations were observed at 70 ug/mL. In an in vivo mammalian erythrocyte micronucleus assay, all animals dosed (15 - 60 mg/kg bw) with copper monochloride exhibited similar PCE/(PCE+NCE) ratios and MNPCE frequencies compared to those of the negative control animals. Therefore copper monochloride is not an in vivo mutagen.</p> <p><b>Carcinogenicity:</b> there was insufficient information to evaluate the carcinogenic activity of copper monochloride.</p> <p>Reproductive and developmental toxicity: In the combined repeated dose toxicity study with the reproduction/developmental toxicity screening test (OECD TG 422), copper monochloride was given orally (gavage) to Sprague-Dawley rats for 30 days to males and for 39-51 days to females at concentrations of 0, 1.3, 5.0, 20, and 80 mg/kg bw/day. The NOAEL of copper monochloride for fertility toxicity was 80 mg/kg bw/day for the parental animals. No treatment-related effects were observed on the reproductive organs and the fertility parameters assessed. For developmental toxicity the NOAEL was 20 mg/kg bw/day. Three of 120 pups appeared to have icterus at birth; 4 of 120 pups appeared runted at the highest dose tested (80 mg/kg bw/day).</p>		
Paslode - STOCKade Lithium Ion Battery Cell	No significant acute toxicological data identified in literature search.		
Paslode - STOCKade Lithium Ion Battery Cell	<p>The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>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. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.</p>		
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 available to make classification  
✗ – Data available but does not fill the criteria for classification  
⊖ – Data Not Available to make classification

**Toxicity**

Not Available

Ingredient	Endpoint	Test Duration (hr)	Effect	Value	Species	BCF
Paslode - STOCKade Lithium Ion Battery Cell	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Paslode - STOCKade Lithium Ion Battery Cell	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Paslode - STOCKade Lithium Ion Battery Cell	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Paslode - STOCKade Lithium Ion Battery Cell	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Paslode - STOCKade Lithium Ion Battery Cell	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Paslode - STOCKade Lithium Ion Battery Cell	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Paslode - STOCKade Lithium Ion Battery Cell	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Paslode - STOCKade Lithium Ion Battery Cell	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Paslode - STOCKade Lithium Ion Battery Cell	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

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>▶ Recycle wherever possible or consult manufacturer for recycling options.</li> <li>▶ Consult State Land Waste Management Authority for disposal.</li> <li>▶ Bury residue in an authorised landfill.</li> <li>▶ Recycle containers if possible, or dispose of in an authorised landfill.</li> </ul>
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**SECTION 14 Transport information****Labels Required**

	
Marine Pollutant	NO Not Applicable
HAZCHEM	2Y

**Land transport (Not Applicable)**

UN number	3480				
Packing group	Not Applicable				
UN proper shipping name	LITHIUM ION BATTERIES (including lithium ion polymer batteries)				
Environmental hazard	No relevant data				
Transport hazard class(es)	<table border="1"> <tr> <td>Class</td> <td>9</td> </tr> <tr> <td>Subrisk</td> <td>Not Applicable</td> </tr> </table>	Class	9	Subrisk	Not Applicable
Class	9				
Subrisk	Not Applicable				
Special precautions for user	<table border="1"> <tr> <td>Special provisions</td> <td>188 230 310 348 376 377 384 387 390</td> </tr> <tr> <td>Limited quantity</td> <td>0</td> </tr> </table>	Special provisions	188 230 310 348 376 377 384 387 390	Limited quantity	0
Special provisions	188 230 310 348 376 377 384 387 390				
Limited quantity	0				

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**Air transport (ICAO-IATA / DGR)**

<b>UN number</b>	3480	
<b>Packing group</b>	Not Applicable	
<b>UN proper shipping name</b>	Lithium ion batteries (including lithium ion polymer batteries)	
<b>Environmental hazard</b>	No relevant data	
<b>Transport hazard class(es)</b>	ICAO/IATA Class	9
	ICAO / IATA Subrisk	Not Applicable
	ERG Code	12FZ
<b>Special precautions for user</b>	Special provisions	A88 A99 A154 A164 A183 A201 A206 A213 A331 A334 A802
	Cargo Only Packing Instructions	See 965
	Cargo Only Maximum Qty / Pack	See 965
	Passenger and Cargo Packing Instructions	Forbidden
	Passenger and Cargo Maximum Qty / Pack	Forbidden
	Passenger and Cargo Limited Quantity Packing Instructions	Forbidden
	Passenger and Cargo Limited Maximum Qty / Pack	Forbidden

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

<b>UN number</b>	3480	
<b>Packing group</b>	Not Applicable	
<b>UN proper shipping name</b>	LITHIUM ION BATTERIES (including lithium ion polymer batteries)	
<b>Environmental hazard</b>	Not Applicable	
<b>Transport hazard class(es)</b>	IMDG Class	9
	IMDG Subrisk	Not Applicable
<b>Special precautions for user</b>	EMS Number	F-A , S-I
	Special provisions	188 230 310 348 376 377 384 387
	Limited Quantities	0

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

Source	Ingredient	Pollution Category
Not Available	Paslode - STOCKade Lithium Ion Battery Cell	Not Available

**SECTION 15 Regulatory information****Safety, health and environmental regulations / legislation specific for the substance or mixture****lithium cobaltate(12190-79-3) is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australian Inventory of Industrial Chemicals (AIIC)  
 Chemical Footprint Project - Chemicals of High Concern List  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans

**lithium manganate(12057-17-9) is found on the following regulatory lists**

Not Applicable

**cobalt lithium manganese nickelate(182442-95-1) is found on the following regulatory lists**

Chemical Footprint Project - Chemicals of High Concern List  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans

**iron(7439-89-6) is found on the following regulatory lists**

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6  
 Australian Inventory of Industrial Chemicals (AIIC)

**aluminium(7429-90-5) is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australian Inventory of Industrial Chemicals (AIIC)



**graphite, natural(7782-42-5) is found on the following regulatory lists**

Australian Inventory of Industrial Chemicals (AIIC)

**carbon, non-activated(7440-44-0) is found on the following regulatory lists**

Australian Inventory of Industrial Chemicals (AIIC)

**copper(7440-50-8) is found on the following regulatory lists**

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

Australian Inventory of Industrial Chemicals (AIIC)

National Inventory	Status
Australia - AIIC	
Canada - DSL	No (lithium manganate; cobalt lithium manganese nickelate)
Canada - NDSL	No (lithium cobaltate; lithium manganate; cobalt lithium manganese nickelate; iron; aluminium; graphite, natural; carbon, non-activated; copper)
China - IECSC	No (lithium manganate)
Europe - EINEC / ELINCS / NLP	No (lithium manganate; cobalt lithium manganese nickelate)
Japan - ENCS	No (lithium manganate; cobalt lithium manganese nickelate; iron; aluminium; graphite, natural; carbon, non-activated; copper)
Korea - KECI	No (cobalt lithium manganese nickelate)
New Zealand - NZIoC	No (cobalt lithium manganese nickelate)
Philippines - PICCS	No (lithium cobaltate; lithium manganate; cobalt lithium manganese nickelate)
USA - TSCA	Yes
<b>Legend:</b>	<i>Y = All ingredients are on the inventory</i>

**SECTION 16 Other information****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.

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TEL (+61 3) 9572 4700.