

Paslode - STOCKade Lithium Ion Battery Cell

Paslode - STOCKade (a part of ITW)

Chemwatch: 4776-72
Safety Data Sheet according to the Health and Safety at Work (Hazardous Substances) Regulations 2017

Issue Date: 01/11/2019
Print Date: 05/08/2021
Initial Date: 18/01/2012
L.GHS.NZL.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 - STOCKade (a part of ITW)
Address	8 Orbit Drive Rosedale 0632 Auckland New Zealand
Telephone	+64 9 477 3000
Fax	Not Available
Website	www.paslode.co.nz
Email	tech@paslode.co.nz

Emergency telephone number

Association / Organisation	NZ Poisons Centre
Emergency telephone numbers	0800 POISON
Other emergency telephone numbers	0800 764 766

SECTION 2 Hazards identification

Classification of the substance or mixture

Classification [1]	Not Applicable
Determined by Chemwatch using GHS/HSNO criteria Gazetted by EPA New Zealand	Not Available

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

Paslude - STOCKade Lithium Ion Battery Cell

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

NZ Poisons Centre 0800 POISON (0800 764 766) | NZ Emergency Services: 111

Description of first aid measures

General	
Eye Contact	<ul style="list-style-type: none"> Generally not applicable. <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> Wash out immediately with fresh running water. 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. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<ul style="list-style-type: none"> Generally not applicable. <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> Generally not applicable. <p>Remove patient to fresh air and seek medical attention.</p>
Ingestion	<ul style="list-style-type: none"> Not considered a normal route of entry. If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Firefighting measures

Extinguishing media

	<ul style="list-style-type: none"> Dry chemical powder. BCF (where regulations permit). Carbon dioxide.
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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"> Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves in the event of a fire. Prevent, by any means available, spillage from entering drains or water courses. Use fire fighting procedures suitable for surrounding area. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire. Equipment should be thoroughly decontaminated after use.
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"> Non combustible. Not considered to be a significant fire risk. Heating may cause expansion or decomposition leading to violent rupture of containers.

Paslude - STOCKade Lithium Ion Battery Cell

▸ May emit acrid smoke. May emit corrosive and poisonous fumes.

Decomposes on heating and produces toxic fumes of:
carbon monoxide (CO)
carbon dioxide (CO₂)
hydrogen fluoride

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Minor Spills	Clean up all spills immediately. Avoid contact with skin and eyes. Place in suitable containers for disposal.
Major Spills	<ul style="list-style-type: none"> ▸ Clean up all spills immediately. ▸ Wear protective clothing, safety glasses, dust mask, gloves. ▸ Secure load if safe to do so. Bundle/collect recoverable product. ▸ Use dry clean up procedures and avoid generating dust. ▸ Vacuum up (consider explosion-proof machines designed to be grounded during storage and use). ▸ Water may be used to prevent dusting. ▸ Collect remaining material in containers with covers for disposal. ▸ Flush spill area with water.

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

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	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.
Other information	<p>Store at room temperature - approx. 20 deg C.</p> <ul style="list-style-type: none"> ▸ Store in original containers. ▸ Keep containers securely sealed. ▸ Store in a cool, dry, well-ventilated area. ▸ Store away from incompatible materials and foodstuff containers. ▸ Protect containers against physical damage and check regularly for leaks. ▸ Observe manufacturer's storage and handling recommendations contained within this SDS. ▸ Keep dry. ▸ Store under cover. ▸ Protect containers against physical damage. ▸ Observe manufacturer's storage and handling recommendations contained within this SDS. <p>Keep out of reach of children. Store out of direct sunlight</p> <ul style="list-style-type: none"> ▸ Store away from incompatible materials.

Conditions for safe storage, including any incompatibilities

Suitable container	Store in original containers.
Storage incompatibility	▸ 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
New Zealand Workplace Exposure Standards (WES)	lithium cobaltate	Particulates not otherwise classified	10 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	lithium cobaltate	Particulates not otherwise classified respirable dust	3 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	lithium manganate	Manganese fume, dust and compounds, as Mn	0.2 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	lithium manganate	Particulates not otherwise classified	10 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	lithium manganate	Manganese fume, dust and compounds, as Mn respirable dust	0.02 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	lithium manganate	Particulates not otherwise classified respirable dust	3 mg/m3	Not Available	Not Available	Not Available

Paslode - STOCKade Lithium Ion Battery Cell

New Zealand Workplace Exposure Standards (WES)	cobalt lithium manganese nickelate	Particulates not otherwise classified respirable dust	3 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	cobalt lithium manganese nickelate	Particulates not otherwise classified	10 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	cobalt lithium manganese nickelate	Manganese fume, dust and compounds, as Mn respirable dust	0.02 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	cobalt lithium manganese nickelate	Manganese fume, dust and compounds, as Mn	0.2 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	iron	Particulates not otherwise classified respirable dust	3 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	iron	Particulates not otherwise classified	10 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	aluminium	Aluminium, as Al: Welding fumes	5 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	aluminium	Aluminium, as Al: Metal dust	10 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	graphite, natural	Graphite, all forms except graphite fibres respirable dust	3 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	carbon, non-activated	Particulates not otherwise classified respirable dust	3 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	carbon, non-activated	Particulates not otherwise classified	10 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	copper	Copper fume Dusts and mists, as Cu	0.2; 1 mg/m3	Not Available	Not Available	Not Available

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. OTHERWISE: ▸ Safety glasses.
Skin protection	See Hand protection below
Hands/feet protection	None under normal operating conditions. OTHERWISE: ▸ 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

Paslude - STOCKade Lithium Ion Battery Cell

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

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	May form hydrofluoric acid if electrolyte comes into contact with water. Product is considered stable and hazardous polymerisation will not occur.
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	Vapors or fumes may cause respiratory tract irritation. Not normally a hazard due to physical form of product.
Ingestion	Not normally a hazard due to physical form of product. Accidental ingestion of the material may be damaging to the health of the individual.
Skin Contact	The electrolyte may cause skin irritation. Not normally a hazard due to physical form of product.
Eye	The electrolyte may cause eye irritation and damage. Not normally a hazard due to physical form of product.
Chronic	The chemicals in this product are contained in a sealed case and exposure does not occur during normal handling and use.

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

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

Paslode - STOCKade Lithium Ion Battery Cell	<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:</p> <ul style="list-style-type: none"> ▶ Vitexin, a flavanoid, which inhibits thyroid peroxidase thus contributing to goiter. ▶ 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. ▶ Lithium which inhibits thyroid hormone release. ▶ Certain foods, such as soy and millet (containing vitexins) and vegetables in the genus Brassica (e.g. broccoli, brussels sprouts, cabbage, horseradish). ▶ Caffeine (in coffee, tea, cola, chocolate) which acts on thyroid function as a suppressant.
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>* Timal 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>Acute toxicity: 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>Repeat dose toxicity: 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>Genotoxicity: 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>Carcinogenicity: 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</p>

Paslode - STOCKade Lithium Ion Battery Cell

	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).
Paslode - STOCKade Lithium Ion Battery Cell	No significant acute toxicological data identified in literature search.
Paslode - STOCKade Lithium Ion Battery Cell	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. 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.

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

SECTION 12 Ecological information

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"> ▶ Recycle wherever possible or consult manufacturer for recycling options. ▶ Consult State Land Waste Management Authority for disposal. ▶ Bury residue in an authorised landfill.
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Continued...

	▶ Recycle containers if possible, or dispose of in an authorised landfill.
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	Ensure that the hazardous substance is disposed in accordance with the Hazardous Substances (Disposal) Notice 2017
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SECTION 14 Transport information**Labels Required**

	
Marine Pollutant	NO Not Applicable
HAZCHEM	2Y

Land transport (UN)

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</td> </tr> <tr> <td>Limited quantity</td> <td>0</td> </tr> </table>	Special provisions	188; 230; 310; 348; 376; 377; 384; 387	Limited quantity	0
Special provisions	188; 230; 310; 348; 376; 377; 384; 387				
Limited quantity	0				

Air transport (ICAO-IATA / DGR)

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>ICAO/IATA Class</td> <td>9</td> </tr> <tr> <td>ICAO / IATA Subrisk</td> <td>Not Applicable</td> </tr> <tr> <td>ERG Code</td> <td>12FZ</td> </tr> </table>	ICAO/IATA Class	9	ICAO / IATA Subrisk	Not Applicable	ERG Code	12FZ								
ICAO/IATA Class	9														
ICAO / IATA Subrisk	Not Applicable														
ERG Code	12FZ														
Special precautions for user	<table border="1"> <tr> <td>Special provisions</td> <td>A88 A99 A154 A164 A183 A201 A206 A213 A331 A334 A802</td> </tr> <tr> <td>Cargo Only Packing Instructions</td> <td>See 965</td> </tr> <tr> <td>Cargo Only Maximum Qty / Pack</td> <td>See 965</td> </tr> <tr> <td>Passenger and Cargo Packing Instructions</td> <td>Forbidden</td> </tr> <tr> <td>Passenger and Cargo Maximum Qty / Pack</td> <td>Forbidden</td> </tr> <tr> <td>Passenger and Cargo Limited Quantity Packing Instructions</td> <td>Forbidden</td> </tr> <tr> <td>Passenger and Cargo Limited Maximum Qty / Pack</td> <td>Forbidden</td> </tr> </table>	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
Special provisions	A88 A99 A154 A164 A183 A201 A206 A213 A331 A334 A802														
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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)

UN number	3480						
Packing group	Not Applicable						
UN proper shipping name	LITHIUM ION BATTERIES (including lithium ion polymer batteries)						
Environmental hazard	Not Applicable						
Transport hazard class(es)	<table border="1"> <tr> <td>IMDG Class</td> <td>9</td> </tr> <tr> <td>IMDG Subrisk</td> <td>Not Applicable</td> </tr> </table>	IMDG Class	9	IMDG Subrisk	Not Applicable		
IMDG Class	9						
IMDG Subrisk	Not Applicable						
Special precautions for user	<table border="1"> <tr> <td>EMS Number</td> <td>F-A , S-I</td> </tr> <tr> <td>Special provisions</td> <td>188 230 310 348 376 377 384 387</td> </tr> <tr> <td>Limited Quantities</td> <td>0</td> </tr> </table>	EMS Number	F-A , S-I	Special provisions	188 230 310 348 376 377 384 387	Limited Quantities	0
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

Continued...

SECTION 15 Regulatory information

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

This substance is to be managed using the conditions specified in an applicable Group Standard. This substance can be managed under the controls specified in the Transfer Notice or alternatively it may be managed using the conditions specified in an applicable Group Standard.

HSR Number	Group Standard
Not Applicable	Not Applicable

lithium cobaltate(12190-79-3) 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 2B: Possibly carcinogenic to humans
 New Zealand Inventory of Chemicals (NZIoC)
 New Zealand Workplace Exposure Standards (WES)

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

New Zealand Inventory of Chemicals (NZIoC)
 New Zealand Workplace Exposure Standards (WES)

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
 New Zealand Workplace Exposure Standards (WES)

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

New Zealand Inventory of Chemicals (NZIoC)
 New Zealand Workplace Exposure Standards (WES)

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

New Zealand Approved Hazardous Substances with controls
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data
 New Zealand Inventory of Chemicals (NZIoC)
 New Zealand Workplace Exposure Standards (WES)

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

New Zealand Inventory of Chemicals (NZIoC)
 New Zealand Workplace Exposure Standards (WES)

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

New Zealand Approved Hazardous Substances with controls
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data
 New Zealand Inventory of Chemicals (NZIoC)
 New Zealand Workplace Exposure Standards (WES)

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

New Zealand Approved Hazardous Substances with controls
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data
 New Zealand Inventory of Chemicals (NZIoC)
 New Zealand Workplace Exposure Standards (WES)

Hazardous Substance Location

Subject to the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Hazard Class	Quantity (Closed Containers)	Quantity (Open Containers)
Not Applicable		

Certified Handler

Subject to Part 4 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Class of substance	Quantities
Not Applicable	Not Applicable

Refer Group Standards for further information

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)

Paslode - STOCKade Lithium Ion Battery Cell

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
Legend:	<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.