

Section 1. Identification of the material and the supplier

Product: **Lithium ion Cells (J7075, J7080)**
 Model: BT-1 128000197 3.7V 2200mAh 8.14Wh
 Watt-hour Rating: No more than 20Wh

ANZ Distributor:	Getinge Australia	Getinge Australia (NZ Branch)
Address	11 Help Street Level 7, Suite 701 Chatswood NSW 2067 AUS	600 Great South Road Building B, Level 2 Ellerslie, Auckland, 1051 NZ
Telephone	1800 438 464	0800 1 438 4643

Emergency Telephone: **AUS +61 2 8014 4558**
NZ +64 9 929 1483 or **0800 764 766** (National Poison Centre)

Date of SDS Preparation: 13 June 2023

Section 2. Hazards Identification

This substance is NOT hazardous according to the EPA Hazardous Substances (Classification) Notice 2020 - This product is considered as a Manufactured Article.

The lithium-ion cells are not hazardous when used according to the instructions of manufacturer under normal conditions. In case of abuse, there’s risk of explode rupture, fire, heat, leakage of internal components, which could cause casualty loss. Abuses include but not limited to the following cases: charge for a long time, short circuit, put into fire, whack with hard object, puncture with acute object, crush, break.

Section 3. Composition / Information on Ingredients

INGREDIENTS	Weight Percentage%(about)	CAS NO.
Metal oxide(proprietary)	35.05%	confidential
Graphite powder	15.98%	7782-42-5
Rubber	10.36%	69028-37-1
Carbon black	0.79%	1333-86-4
Styrene butadiene rubber(SBR)	0.71%	61789-96-6
Polypropylene	1.74%	9003-07-0
Polyethylene	1.27%	9002-88-4
Lithium hexaf luorophosphate	1.27%	21324-40-3
Ethylene carbonate(EC)	6.34%	96-49-1
Diethyl carbonate(DEC)	4.76%	105-58-8
Propylene carbonate(PC)	1.11%	108-32-7
Polycaprolactam(NYLON6)	1.11%	25038-54-4
Copper	8.39%	7440-50-8
Aluminium	11.12%	7429-90-5

Section 4. First Aid Measures

The lithium cells are not hazardous with eye and skin contact under normal circumstance, In case of fire or rupture, the leakage of internal hazardous substance and formation of hazardous substance would occur, take the following measures if contact with it:

If in Eyes	Check for and remove any contact lenses. Immediately flush with plenty of clean water for at least 15 minutes; seek medical assistance.
If on Skin	Immediately flush with plenty of clean water for 15 minutes; seek medical assistance if severe.
If Swallowed	Rinse mouth with clean water immediately, activate vomit under the direction of expert, and seek medical assistance.
If Inhaled	If inhaled, remove to fresh air immediately, seek medical assistance, and ventilate the contaminated area.

Section 5. Fire Fighting Measures

Hazard Type	Cell is not flammable but internal organic material will burn if the cell is incinerated.
Hazards from products	Combustion products and decomposed products by contact of water or air with internal substance include: carbon monoxide, carbon dioxide, hydrogen fluoride, phosphorus fluoride.
Suitable Extinguishing media	Extinguish with plenty of water, dry powder extinguishers, sands, earth.
Precautions for firefighters and special protective clothing	Wear protective clothing and equipment.
HAZCHEM CODE	4Y

Section 6. Accidental Release Measures

When leakage of batteries happens, liquid could be absorbed with sands, earth or other inert substance, and the contaminated area should be ventilated meantime.

Section 7. Handling and Storage**Precautions for Handling and Storage:**

Don't handle and store cells with metalwork, Store and use far away from hest, sparks, open flame, or any other ignition sources, and under room temperature (<30°C) in ventilating and dehumidifying environments.

Section 8 Exposure Controls / Personal Protection**WORKPLACE EXPOSURE STANDARDS (provided for guidance only)**

Substance		TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Graphite, all forms except graphite fibres	[7782-42-5]	-	3	-	-
Carbon black	[1333-86-4]	-	3	-	-
compounds, as Cu	[7440-50-8]	-	0.01	-	-

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices APRIL 2022 13TH EDITION.

Engineering Controls

There is no need for protect under normal conditions. In engineering aspect, ventilation equipment should be installed.

Personal Protection Equipment:

Gas mask, blinkers, gloves enduring chemical erosion and exposure suit are required when dealing with fire and leakage.

Eyes	Not necessary under conditions of normal use.
Hands	Not necessary under conditions of normal use.
Respiratory	Not necessary under conditions of normal use.

Section 9 Physical and Chemical Properties

Appearance	Cells are not single chemical material; there are no specific physical and chemical properties. Main purpose of lithium ion cells: used in portable and digital products.
Colour	Not available
Odour	Not available
Odour Threshold	Not available
pH (typical)	Not available
Boiling Point	Not available
Melting Point	Not available
Freezing Point	Not available
Flash Point	Not available
Flammability	Not available
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Vapour Density	Not available
Relative Gas Density	Not available
Decomposition Temp	Not available
Water Solubility	Not available
Partition Coefficient:	Not available
Auto-ignition Temperature	Not available
Viscosity	Not available
Particle Characteristics	Not available

Section 10. Stability and Reactivity

Lithium batteries are contained in a stable steel container and are sealed to avoid any chemical release under conditions of normal use.

Stability of Substance	This product is stable under normal conditions.
Possibility of hazardous reactions	The following substance might appear after catching fire or leakage: organic carbonate, hydrogen fluoride, carbon monoxide, carbon dioxide, phosphorus fluoride.
Conditions to Avoid	Refer to Section 7.
Incompatible Materials	No data available
Hazardous Decomposition	Combustion products and decomposed products by

Products	contact of water or air with internal substance include: carbon monoxide, carbon dioxide, hydrogen fluoride, phosphorus fluoride.
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Section 11 Toxicological Information

Cells are not hazardous when used properly. If the Cells catch fire or the internal substance leaks, combustion products and decomposed products might have irritation and toxicity to skin, eye and respiratory systems, Toxicity data of some substance are listed following;

Hydrogen fluoride:

Extremely toxic, May be fatal if inhaled or ingested. Readily absorbed through the skin-skin contact may be fatal. Possible mutagen. LCL0:50 ppm/30m (human beings), LC50; 1276 ppm/1h(rats).

Carbon and graphite:

Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation. Causes chronic damage to upper respiratory tract and cardiovascular system.

Copper:

Dust may cause respiratory irritation. LD50:3.5 mg kg⁻¹(mouse).

Acute Effects:

Swallowed	Does not contain any ingredients classified as acutely toxic.
Dermal	Does not contain any ingredients classified as acutely toxic.
Inhalation	Does not contain any ingredients classified as acutely toxic.
Eye	Does not contain any ingredients classified as an eye irritant/corrosive.
Skin	Does not contain any ingredients classified as an skin irritant/corrosive.

Chronic Effects:

Carcinogenicity	Does not contain any ingredients classified as carcinogenic.
Reproductive Toxicity	Does not contain any ingredients classified as toxic for reproduction.
Germ Cell Mutagenicity	Does not contain any ingredients classified as mutagenic.
Aspiration	Does not contain any ingredients classified as Asp Tox.
STOT/SE	Does not contain any ingredients classified as STOT SE.
STOT/RE	Does not contain any ingredients classified as STOT RE.

Section 12. Ecotoxicological Information

There is no influence to ecology and environment when used properly.

Product:	
Persistence and degradability	No data available
Bioaccumulation	No data available
Mobility in Soil	No data available
Other adverse effects	No data available

Section 13. Disposal Considerations

Disposal Method:

Deserted cells couldn't be treated as ordinary trash. Be put to garbage box which recycle cells after being placed into plastic bags or be dealt as special trash. The package and plastic box used for containing cells could be treated as ordinary trash. Best way is recycling.

Disposal methods to avoid: Couldn't be thrown into fire or placed in high temperature. Couldn't be dissected, pierced or crushed.

Section 14**Transport Information**

For the international transport of lithium cells, they must comply with these regulations. The international Maritime dangerous Goods (IMDG) Code by international Maritime Organization (IMO), Dangerous Goods Regulations(DGR) by international Air Transport Association(IATA) and Technical instructions for the safe Transport of Dangerous Goods by Air(TI) by international Civil Aviation Organization(ICAO).These regulations are based on the UN recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria.

Lithium cells which meet the requirements of UN38.3 (UN Manual of Tests and Criteria, Part III, subsection 38.3) could be transported by air and by sea. If the package meets the instruction of IATA-DGR, could be transported as ordinary goods, otherwise should be transported according to Class 9, Packing Group 1 hazardous goods.

According to UN classification: However this product's shipping name is "lithium ion cells"(or "lithium ion cells packed with equipment" or "lithium ion cells contained in equipment"),it is not recognized as "DANGROUS GOODS" when its transport condition accords with "packing instruction 965 section II of IATA-DGR"(or "Packing instruction 966 section II" or "Packing instruction 967 section II") or "special provision 188 of IMO-IMDG Code", it could be transported as ordinary goods.

- 1、 For lithium ion cells, UN ID number is 3480.For lithium ion cells contained in equipment or lithium ion cells packed with equipment UN ID number is 3481.
- 2、 The consignment should be fully described by proper shipping name and packed, marked and in proper condition for carriage by air. The consignment is not classified as dangerous under the current edition of the IATA 6th Effective 01 January 2020,Dangerous goods regulation and applicable carrier and government regulations.
- 3、 For transported by air, Lithium-ion Cells/Batteries shipped as "Not Restricted"
Cargo: Must comply with Part II of PI 965-PI967 accordingly; For cells, the Watt-hour rating should not be more than 20Wh; For batteries, the Watt-hour rating should not be more than 100Wh.Watt-hour rating must be marked on the outside of the battery case (marked by manufacturer),
- 4、 Each consignment must be accompanied with a document such as an air waybill with an indication. For those Lithium ion cells contained in equipment, the equipment must be equipped with an effective means of preventing accidental activation. The telephone number for additional information for BAK cells is 86-755-83476578.
- 5、 For very small cells and cells, up to 2.7Wh for lithium ion, the limit quantity per package shall not exceed 2.5kg. For 2.7Wh to 20Wh cells and batteries, the limit quantity per package shall not exceed 8pcs.
For lithium ion batteries contained in equipment or lithium ion batteries packed with equipment, the cells limit quantity per package shall not exceed 5kg.
- 6、 Each package must be capable of withstanding a 1.2m drop test in any orientation without damage of cells contained therein.
- 7、 Lithium cells which meet the requirements of A154 could be transported by air, and the cells manufactured by BAK meet these requirements (A154 Lithium batteries identified by the manufacturer as being defective for safety reasons, or that have been damaged, that have the potential of producing a dangerous evolution of heat, fire or short circuit are forbidden for transport.)
- 8、 Cells and batteries must be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to short circuit.
- 9、 Transport condition should accord with "special provision 188 of IMO-IMDG Code".

Section 15**Regulatory Information**

This substance is NOT hazardous according to the EPA Hazardous Substances (Classification) Notice 2020 - This product is considered as a Manufactured Article.

Section 16**Other Information****Glossary**

EC ₅₀	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.

Product Name: **Lithium ion Cells**
Date of SDS: 13 June 2023

SDS Prepared by: Technical Compliance Consultants (NZ) Ltd
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LC ₅₀	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD ₅₀	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices April 2022 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2020
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

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Please contact the New Zealand distributor, if further information is required.

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