BATTERY SAFETY DATA SHEET

Rev. 1.0

SECTION 1 - CHEMICAL AND COMPANY IDENTIFICATION

Product Name:	Lithium-ion Rechargeable Battery Pack	**Date Prepared:**	February 2024
Type/Model:	Type/Model: CNB550E V2, CNB950E V2 — Nominal voltage: 7.4V — Rated capacity: 1800mAh The above model battery is composed of the same cell.		
Parameter	7.4V, 1800mAh, 13.32Wh		
Usage	☐ Used in Portable Equipment	☐ Used in Electric Vehicle	
	☐ Used in Energy Storage System	☒ Others	
Manufacturer's Name:	Entel UK Limited		
Address:	320 Centennial Avenue, Centennial Park, Elstree, Borehamwood, Herts ,WD6 3TJ		
Telephone Number:	+44 (0)20 8236 0032		
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Document Number:	QAS-SDS-018		

SECTION 2 – HAZARD IDENTIFICATION

Classification:

This chemical is not considered hazardous by the Regulation (EC) No 1272/2008 (CLP). This product is an article that is a sealed battery and as such does not require an SDS per regulation (EC) No 1272/2008 (CLP) unless ruptured. The hazards indicated are for ruptured batteries.

Acute toxicity – Oral	Category 4
Acute toxicity – Dermal	Category 4
Skin corrosion/irritation	Category 1B
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1

Label elements:

Signal Word: **Danger**

Hazard Statements

H302	Harmful if swallowed.
H313	Harmful in contact with skin.
H332	Harmful if inhaled.
H318	Causes serious eye damage.
H317	May cause allergic skin reaction.
H350	May cause cancer.
H371	May cause damage to organs.
H355	May cause respiratory irritation.

Symbol

GHS08

GHS05

GHS07

This product is an article that contains a chemical substance. Safety information is given for exposure to the article as solid. The intended use of the product should not in result exposure to the chemical substance, this is a battery. In case of rupture: the above hazards exist.

Precautionary Statement – Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P281	Use personal protective equipment as required.
P264	Wash face, hands and any exposed skin thoroughly after handling.
P272	Contamination work clothing should not allowed out of the workplace.
P210	Keep away from heat/sparks/open flames/hot surfaces-no smoking.
P270	Do not eat, drink or smoke when using this product.

Precaution Statements – Response

P301 + P330 + P308
If exposed or connected: Get medical advice/attention. Specific treatment (see supplemental first aid/instruction on this label)
Skin: If on the skin: wash with plenty of soap and water. Take off contaminated clothing and water before reuse, if skin irritation or rash occurs: get medical advice/attention if feel unwell.
Eye: If in eyes: Rinse cautiously with water for several minutes, and remove contact lenses, if present and easy to do, continue rinsing. Call a POISON CENTER or doctor/physician if you feel unwell.
Inhalation: If inhalation: if breathing is difficult, remove the victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician if you feel unwell.
Ingestion: If swallowed: rinse mouth, do not induce vomiting, and call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary Statements – Storage

P405	Store locked up

Precautionary Statements – Disposal

P501	Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable.

Other information

Harmful to aquatic organisms, and may cause long-term adverse effects in the aquatic environment.

Interactions with other chemicals

The use of alcoholic beverages may enhance the toxic effect.

SECTION 3 – COMPOSITION /INFORMATION ON INGREDIENT

Ingredient	Molecular Formula	CAS No.	Weigh
Lithium Cobalt Dioxide	LiC_oO_2	12190-79-3	33-45%
Graphite	$C_{24}X_{12}$	7782-42-5	13-21%
Electrolyte	--	--	13-20%
Aluminium	Al	7429-90-5	13-20%
Copper foil	Cu	7440-50-8	6-12%
Polyvinylidene fluoride	$(C_2H_2F_2)_n$	24937-79-9	0.4-0.9%
Graphite /Acetylene Black	C	1333-86-4	0.3-0.7%

SECTION 4 – FIRST AID MEASURES

Eye Exposure:

In case of contact with eyes, flush with copious water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Skin Exposure:

If the internal battery materials of an opened battery cell come into contact with skin, immediately flush with plenty of water or soap.

Inhalation Exposure:

If inhaled the internal battery vomiting. Seeking immediate medical attention.

Ingestion Exposure:
If swallowed, seek medical attention. Do not include vomiting unless directed to do so by medical personnel.

SECTION 5 – FIRE FIGHTING MEASURES

Danger characteristic:
Exposure to excessive heat can cause venting of the liquid electrolyte.
Battery may burst and release hazardous decomposition products when exposed to a fire situation.

Hazardous combustion products:
Corrosive and toxic gas may be emitted during a fire.

Fire-Fighting method:
The staff must equip with filter mask (full mask) or isolated breathing apparatus.
The staff must wear clothes which can defend the fire in the upwind direction.
Remove the container to the open space as soon as possible.
Spray water on the containers in the fireplace to keep them cool until finished extinguishment.

Fire-fighting media:
Plenty of water, dry chemical powder or carbon dioxide.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Emergency treatment:
If the battery material is released, remove personnel from the area until the batteries cool down and the fumes dissipate. Provide maximum ventilation to clear out hazardous gases and avoid skin and eye contact or inhalation of vapours. Remove spilled liquid with absorbent and incinerate waste.

SECTION 7 - HANDLING AND STORAGE

Handling:
1. Do not allow battery terminates to contact each other, or contact with other metals.
2. Do not put the cell or battery into fire or heat it. Do not solder the cell directly. Do not use or leave the cell or battery in a place near the fire or heaters.
3. Do not expose the battery to excessive physical shock or vibration.
4. Do not immerse, throw, and wet a battery in water.
5. Short-circuiting should be avoided. A short circuit will reduce the life of the battery and can lead to the ignition of surrounding materials. Physical contact with short-circuited battery can cause skin burns.
6. The batteries should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed containers.
7. Place the cell beyond the child packing and container.
8. Do not connect the battery directly to an electric outlet or cigarette socket in a car.
9. Be sure to use the specified charger for battery, and follow the charging instructions correctly.
10. Do not mix old and new batteries together, neither with Ni-Cd, dry batteries or another manufacturer’s batteries or product.

Storage:
1. Batteries should be separated from other materials and stored in a non-combustible, well ventilated, sprinkler-protected structure with sufficient clearance between walls and battery stacks.
2. Keep the sample in a cool, dry and well-ventilated place (temperature: -20~30°C, humidity: 45~85%). Do not exposure to direct sunlight for long periods. Keep away from fire and heating sources. Don’t keep the samples with oxidizer and acid.
3. Equip with relevant types and quantities of the extinguishment instruments. The storage place should be equipped with suitable shelter materials for divulgence handling.
4. For rechargeable battery, charge the battery every 6 months to the amount specified by the manufacture, even if the battery is not used.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Control:
Keep away from heat and open flame. Supply with sufficient partial air exhaust. Store in a cool, dry place.

Respiratory Protection:
Not necessary under conditions of normal use. Wear a self-contained breathing filter mask if the density exceeds in the air. Wear a breathing apparatus under the condition of emergency rescue or evacuation.

Eyes Protection:
Not necessary under control conditions of normal use. Wear protective glasses if handling a leaking or ruptured battery.

Skin and Body Protection:
Not necessary under conditions of normal use. Wear fireproofing, gas defence clothes in case of handling a leaking or ruptured battery.

Hands Protection:
Not necessary under conditions of normal use. Wear chemical-resistance rubber gloves.

Other Protections:
No smoking, dining and drinking water in the workplace. Keep good habits of hygiene.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Black
Physical state:	Solid
Form:	Irregular shape
Odor:	Odorless
Solubility:	Insoluble in water

SECTION 10 - STABILITY AND REACTIVITY

Stability:
Stable under normal temperature and pressure.

Distribution of Ban:
Explosives, inflammables, strong oxidations and corrosives.

Conditions to Avoid:
Fire source, heating source, disassembly, external short circuit, crushes, deformation, high temperature above 100°C, direct sunlight and high humidity, immerse in water or overcharge.

Hazardous Polymerization:
This will not occur.

Hazardous Decomposition Products:
Metal oxides, carboxyl compounds such as CO, CO_2, etc.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute Toxicity:
No information is available.

Sub-acute and Chronic Toxicity:
No information is available.

Irritation Data:
The internal battery materials may cause irritation to the eyes and skin.

Sensitization:
The liquid in the battery may cause sensitization in some people.

Mutagenicity:
No information is available.

Carcinogenicity:
Cobalt and Cobalt compounds are considered to be possible human carcinogen(s).

Others:
Since the materials in this battery are sealed in the can, the potential for exposure to the components of the battery is negligible, when the battery is used as directed. However technical or electrical abuse of the battery may result in the release of battery contents.

SECTION 12 - ECOLOGICAL INFORMATION

Eco-toxicity:
No information is available.

Biodegradable:
No information is available.

Mobility in soil:
No information is available.

Bio concentration or biological accumulation:
No information is available.

Other harmful effects:
Don't abandon the battery in environment, may cause water or soil pollution.

SECTION 13 – DISPOSAL CONSIDERATIONS

Appropriate Method of Substance:
The battery should be completely discharged before disposal in order to prevent short circuit.
The battery contains recyclable materials, and it is suggested to recycle.
Refer to National or Local regulations before handling.
Disposal of the battery should be performed by permitted, professional disposal firms knowledgeable in National or Local regulations of hazardous waste treatment and hazardous waste transportation.

SECTION 14 – TRANSPORT INFORMATION

The battery has passed the test items of UN Manual of Test and Criteria Section 38.3.

Type/Model	Report No.
CNB550E V2	SET2018-05534
CNB950E V2	SET2018-01965

General packaging requirement:
1. The cells or batteries must be protected so as to prevent short circuits.
2. The cells or batteries or equipment must be packed in suitable strong outer packaging.
3. If batteries are contained in equipment, equipment must be secured against movement within the outer packaging and be packed so as to prevent accidental activation.

Air transportation, according to IATA-DGR 65th Edition

UN Number + PSN	**UN 3480, Lithium-ion Batteries**
Hazard Class	Class 9
Packaging instruction	Strong package, packaging according to packing instruction 965, section IB
UN Number + PSN	**UN 3481, Lithium-ion Batteries Packed with Equipment, or** **UN 3481, Lithium-ion Batteries Contained in Equipment**
Hazard Class	Not restricted
Packaging instruction	Strong package, packaging according to packing instruction 966-967, section II

Sea transportation, according to IMO IMDG Code (Amend 40-2020)

UN Number + PSN	**UN 3480, Lithium-ion Batteries** **UN 3481, Lithium-ion Batteries Packed with Equipment, or** **UN 3481, Lithium-ion Batteries Contained in Equipment**
Hazard Class	Not restricted, according to sp188
Packaging instruction	Strong package, Packaging in accordance to corresponding requirements of sp188
EmS No	F-A, S-I

Road transportation, according to ADR-2021

UN Number + PSN	**UN 3480, Lithium-ion Batteries** **UN 3481, Lithium-ion Batteries Packed with Equipment, or** **UN 3481, Lithium-ion Batteries Contained in Equipment**
Hazard Class	Not restricted, according to sp188
Packaging instruction	Strong package, Packaging in accordance to corresponding requirements of sp188

SECTION 15 – REGULATORY INFORMATION

Dangerous Goods Regulation (DGR)
Recommendations on the Transport of Dangerous Goods Model Regulations
International Maritime Dangerous Goods (IMDG)

Occupational Safety and Health Act (OSHA)
Toxic Substances Control Act (TSCA)
Code of Federal Regulations (CFR)
Technical Instructions for the Safe Transport of Dangerous Goods
California Proposition 65
Superfund Amendments and Reauthorization Act Title III (302/311/312/313) (SARA)
Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
In accordance with all Federal, State and local laws.

SECTION 16 – OTHER INFORMATION

Preparation Date:	February 27, 2024
Prepared by:	Entel Quality Assurance Department
According standard:	GB/T 16483-2008 SDS for chemical products Content and order of sections ISO 11014:2009(E) SDS for chemical products Content and order of sections
Reference:	Report No. Entel20230119MSDS01 Guangzhou MCM Certification & Testing Co., Ltd. Report No. SET2018-05534 Report No. SET2018-01965 CCIC Southern Electronic Product Testing (Shenzhen) Co., Ltd.
Revision:	
Rev. 1.0 (Ver. 02/24)	Initial Release

Statement of Liability /Disclaimer:

The above information is based on the data of which we are aware and is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

The information contained in this Safety data sheet is made in good faith and is based on the present state of knowledge and current legislation. Entel disclaims all liability in respect of the information implied or expressed. Equivalent information is available from the cell manufacturer.

Material Declaration

<Date of declaration>

Date:	28-Feb-24

<MD ID Number>

MD-ID-No.	MD_ENT_UK_20240228

<Other information>

Remark 1	N/A
Remark 2	N/A
Remark 3	N/A

Company name	Entel UK Limited
Division name	Quality Assurance
Address	320 Centennial Avenue Centennial Park, Elstree Borehamwood, Herts WD6 3TJ United Kingdom
Contact person	Mike Jamieson
Telephone no	+44 (0)20 8236 0032, Ext 239 or 219
Fax number	None
E-mail address	mike.jamieson@entel.co.uk
SDoC ID no	SD_ENT_UK_20240228

<Supplier (Respondent) Information>

<Product Information>

Product Category	Product Number	Delivered Unit		Product Information
		Weight	Unit	
Fire Fighter Transceivers VHF	DT844FF DT944FF	0.435	kg	MED Wheel mark approved Fire Fighter radio. ATEX II 2G Ex ib IIB T4 Gb Ta= -20C to +40C MED Wheel mark approved Fire Fighter radio. ATEX II 2G Ex ib IIC T4 Gb Ta= -20C to +40C
Fire Fighter Transceivers UHF	DT885FF DT985FF	0.435	kg	MED Wheel mark approved Fire Fighter radio. ATEX II 2G Ex ib IIB T4 Gb Ta= -20C to +40C MED Wheel mark approved Fire Fighter radio. ATEX II 2G Ex ib IIC T4 Gb Ta= -20C to +40C
DT Marine VHF	DT542 DT544 DT842 DT844 DT942 DT944	0.435	kg	Marine Transceiver Displayless. IECEx Ex ib IIB T4 Gb Ta= -20C to +40C Marine Transceiver Display. IECEx Ex ib IIB T4 Gb Ta= -20C to +40C Marine Transceiver Displayless. ATEX II 2G Ex ib IIB T4 Gb Ta= -20C to +40C Marine Transceiver Display. ATEX II 2G Ex ib IIB T4 Gb Ta= -20C to +40C Marine Transceiver Displayless. ATEX II 2G Ex ib IIC T4 Gb Ta= -20C to +40C Marine Transceiver Display. ATEX II 2G Ex ib IIC T4 Gb Ta= -20C to +40C
DT Marine UHF	DT582M DT585M DT882M DT885M DT982M DT985M	0.435	kg	Marine Transceiver Displayless. IECEx Ex ib IIB T4 Gb Ta= -20C to +40C Marine Transceiver Display. IECEx Ex ib IIB T4 Gb Ta= -20C to +40C Marine Transceiver Displayless. ATEX II 2G Ex ib IIB T4 Gb Ta= -20C to +40C Marine Transceiver Display. ATEX II 2G Ex ib IIB T4 Gb Ta= -20C to +40C Marine Transceiver Displayless. ATEX II 2G Ex ib IIC T4 Gb Ta= -20C to +40C Marine Transceiver Display. ATEX II 2G Ex ib IIC T4 Gb Ta= -20C to +40C
DT Land VHF	DT522 DT525 DT822 DT825 DT922 DT925	0.435	kg	DMR/Analogue Land Transceiver Displayless. IECEx Ex ib IIA T4 Gb Ta= -20C to +40C DMR/Analogue Land Transceiver Display. IECEx Ex ib IIA T4 Gb Ta= -20C to +40C DMR/Analogue Land Transceiver Displayless. ATEX II 2G Ex ib IIA T4 Gb Ta= -20C to +40C DMR/Analogue Land Transceiver Display. ATEX II 2G Ex ib IIA T4 Gb Ta= -20C to +40C DMR/Analogue Land Transceiver Displayless. ATEX II 2G Ex ib IIC T4 Gb Ta= -20C to +40C DMR/Analogue Land Transceiver Display. ATEX II 2G Ex ib IIC T4 Gb Ta= -20C to +40C
DT Land UHF	DT582 DT585 DT882 DT885 DT982 DT985	0.435	kg	DMR/Analogue Land Transceiver Displayless. IECEx Ex ib IIA T4 Gb Ta= -20C to +40C DMR/Analogue Land Transceiver Display. IECEx Ex ib IIA T4 Gb Ta= -20C to +40C DMR/Analogue Land Transceiver Displayless. ATEX II 2G Ex ib IIA T4 Gb Ta= -20C to +40C DMR/Analogue Land Transceiver Display. ATEX II 2G Ex ib IIA T4 Gb Ta= -20C to +40C DMR/Analogue Land Transceiver Displayless. ATEX II 2G Ex ib IIC T4 Gb Ta= -20C to +40C DMR/Analogue Land Transceiver Display. ATEX II 2G Ex ib IIC T4 Gb Ta= -20C to +40C
DX Marine UHF	DX482M DX485M	0.267	kg	DMR/Analogue Marine Transceiver, Displayless DMR/Analogue Marine Transceiver, Display
DX Land VHF	DX422 DX425	0.267	kg	DMR/Analogue Land Transceiver, Displayless DMR/Analogue Land Transceiver, Display
DX Land UHF	DX482 DX485	0.267	kg	DMR/Analogue Land Transceiver, Displayless DMR/Analogue Land Transceiver, Display
DX-IS Marine VHF	DX542-IS DX544-IS	0.289	kg	Marine Transceiver Displayless. UL913 intrinsically safe approved Marine Transceiver Display. UL913 intrinsically safe approved
DX-IS Marine UHF	DX582M-IS DX585M-IS	0.289	kg	Marine Transceiver Displayless. UL913 intrinsically safe approved Marine Transceiver Display. UL913 intrinsically safe approved
DX-IS Land VHF	DX522-IS DX525-IS	0.289	kg	DMR/Analogue Land Transceiver, Displayless, UL913 intrinsically safe approved DMR/Analogue Land Transceiver, Display, UL913 intrinsically safe approved
DX-IS Land UHF	DX582-IS DX585-IS	0.289	kg	DMR/Analogue Land Transceiver, Displayless, UL913 intrinsically safe approved DMR/Analogue Land Transceiver, Display, UL913 intrinsically safe approved
HT700 Land VHF	HT722 HT723 HT725 HT726	0.277	kg	Analogue Land Transceiver, Displayless, 3keys Analogue Land Transceiver, Display, 3keys Analogue Land Transceiver, Display, 8 keys Analogue Land Transceiver, Display, 20 keys
HT700 Land UHF	HT782 HT783 HT785 HT786	0.277	kg	Analogue Land Transceiver, Displayless, 3keys Analogue Land Transceiver, Display, 3keys Analogue Land Transceiver, Display, 8 keys Analogue Land Transceiver, Display, 20 keys
HT644 Marine VHF	HT644	0.277	kg	Marine Transceiver, Display, 7keys
HT649 Marine VHF	HT649	0.277	kg	GMDSS MED approved, Display, 7keys

Battery Packs	CNB450E	0.12	kg	2200mAh Rechargeable Lithium-Ion Battery Pack with belt Clip
	CNB750E	0.12		2200mAh Rechargeable Lithium-Ion Battery Pack with belt Clip
	CNB450E-IS	0.12		2200mAh Rechargeable Lithium-Ion Battery Pack with belt Clip
	CNB550EV2	0.13		1800mAh Rechargeable Lithium-Ion Battery Pack with belt Clip
	CNB950EV2	0.13		1800mAh Rechargeable Lithium-Ion Battery Pack with belt Clip
	CLB750G	0.14		Primary Lithium battery pack with belt Clip
	CLB850FF	0.16		ATEX approved emergency one-shot battery pack with rear clip (DT844FF & DT885FF only)

<Material Information>

This material information shows the amount of hazardous materials contained in

	Unit
1	piece

Table	Material Name		Threshold level	Present above threshold level	IF YES Material Mass		IF YES Information on where it is used
				Yes / No	Amount	Unit	
Table A (materials listed in appendix 1 of the Convention)	Asbestos		0.10%	No			
	Polychlorinated Biphenyls (PCBs)		50mg/kg	No			
	Ozone depleting Substances	Chlorofluorcaobons (CFCs)	no threshold level	No			
		Halons		No			
		Other fully Halogenated CFCs		No			
		Carbon Tetrachloride		No			
		1,1,1-Trichloroethane		No			
		Hydrochlorofluorcarbons		No			
		Hydrobromofluorcarbons		No			
		Methyl Bromide		No			
		Bromochloromethane		No			
	Anti-fouling systems containing organotin compounds as a biocide		2,500 mg total tin/kg	No			
Table B ** (materials listed in appendix 2 of the Convention)	Cadmium and Cadmium Compounds		100 mg/kg	No			
	Hexavalent Chromium and Hexavalent Chromium Compounds		1000 mg/kg	No			
	Lead and Lead Compounds		1000 mg/kg	No			
	Mercury and Mercury Compounds		1000 mg/kg	No			
	Polybrominated Biphenyl (PBBs)		50 mg/kg	No			
	Polybrominated Diphenyl Ether (PBDEs)		1000 mg/kg	No			
	Polychloronaphalenes (Cl>=3)		50 mg/kg	No			
	Radioactive substances		no threshold level	No			
	Certain Shortchain Chlorinated Paraffins		1%	No			
Annex II*** (Additional Materials)	Perfluorooctane sulfonic acid (PFOS)		10 mg/kg****	No			
	Brominated Flame Retardant (HBCDD)		100 mg/kg	No			

*Please refer to footnote 18 on the "Form of Material Declaration" in the IMO Guidelines Resolution MEPC.269(68).
**Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (SR/CONF/45).
***Regulation EU No. 1257/2013 of the European Parliament and of the Council of 20 November 2013 on Ship Recycling and amending Regulation EC No. 1013/2006 and Directive 2009/16/EC EMSA's Best Practice Guidance on the Inventory of Hazardous Materials, dated 2016-10-28
****Concentrations of PFOS above 10 mg/kg (0.001% by weight) when it occurs in substances or in preparations or concentrations of PFOS in semi-finished products or articles, or parts thereof equal to or above 0.1% by weight calculated with reference to the mass of structurally or micro-structurally distinct parts that contain PFOS or for textiles or other coated materials, if the amount of PFOS is equal to or above than 1 µg/m² of the coated material.