SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Description	Lithium Ion Rechargeable Battery		
Product Model No.	CC1150		
Product Part No.	46A005AB00002		
Product Rating	3.7V 1.15Ah (4.2Wh)		
Brand	Entellion		
Manufacturer	Accutronics Ltd.		
Address	Unit 20 Loomer Road, Chesterton, Newcastle-under-Lyme, Staffordshire, ST5 7LB, United Kingdom		
Telephone	+44 (0) 1782 566622	Email	tech@accutronics.co.uk
Prepared by	N. OLIVER	Issue Date	10th Dec 2024

SECTION 2: HAZARDS IDENTIFICATION

NOTE: This Accutronics battery product meets the definition of an ARTICLE. Under the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), "Articles" as defined in the Hazard Communication Standard (29CFR 1910.1200) of the Occupational Safety and Health Administration of the United States of America, or by similar definition, are outside the scope of the system. [Rev. 2 (2007) Part 1.3.2.1.1]

The materials contained in this product may only represent the hazards identified below if the integrity of the cell or battery is compromised; physically or electrically abused

GHS Classification

Skin irritation (Category 2)
Skin corrosion (Category 1)
Eye irritation (Category 2)
Single target organ toxicity, single exposure (Category 3)
Carcinogen (Category 1B)

GHS Label elements, including precautionary statements

Pictogram

Hazard Statements

H315 Causes skin irritation
H317 May cause an allergic skin reaction
H319 Causes serious eye irritation
H335 May cause respiratory irritation
H350 May cause cancer

Precautionary Statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P350 IF ON SKIN: gently wash with plenty of soap and water.
P301 + P330 + P331 IF SWALLOWED: rinse mouth, DO NOT induce vomiting.
P304 + P340 IF INHALED: Move person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.
P362 + P352 Take off contaminated clothing and wash before re-use.
P501 Dispose of contents/container in accordance with local/national regulations.

WHMIS Classification

D2A Very toxic material causing other toxic effects	Carcinogen
D2B Toxic material causing other toxic effects	Moderate skin irritant
	Skin sensitizer
	Moderate respiratory irritant
	Moderate eye irritant

OSHA Classification

Hazardous

HMIS classification

Health Hazard	2
Chronic Hazards	0
Flammability	2
Physical Hazards	0

Risk Phrases (EU)

R38 Irritating to skin
R43 May cause sensitisation by skin contact
R36 Irritating to eyes
R37 Irritating to respiratory system
R45 May cause cancer

Additional Notes

- Do not open or disassemble.
- Do not expose to fire or open flame.
- Do not mix with batteries of varying sizes, chemistries or types.
- Do not puncture, deform incinerate or heat above +85°C (185°F).

SECTION 3: COMPOSITION / INGREDIENTS INFORMATION

Lithium Ion rechargeable (Lithium Cobalt Oxide Type)

Under normal conditions, cells and batteries do not emit hazardous or regulated substances.

Component	CAS Number	EINECS Number	% by Wt.
Lithium transition metal oxidate ($Li[M]_m[O]_n$ *2)	12190-79-3 12057-17-9 182442-95-1	N/A	
Iron	7439-89-6	N/A	
Aluminium	7439-90-5	N/A	
Graphite (Natural graphite) (Artificial graphite)	 7782-42-5 7440-44-0	N/A	
Copper	7440-50-8	N/A	
Organic electrolyte	-	N/A	

SECTION 4: FIRST AID MEASURES

Inhalation	• Avoid inhaling any vented gases. • Remove to fresh air immediately. • If breathing is difficult, seek emergency medical attention.
Ingestion	• Consult a physician or local poison control centre immediately.
Skin Contact	• Exposure to materials from a ruptured or otherwise damaged cell or battery may cause skin irritation. • Flush immediately with water and wash affected area with soap and water.
Eye Contact	• Exposure to materials from a ruptured or otherwise damaged cell or battery may cause eye irritation. • Flush immediately with copious amounts of water for at least 15 minutes; consult a physician immediately.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing Media	• Copious amounts of cold water or water-based foam may be used to cool burning cells or batteries. Do not use warm or hot water. • Dry Powder / CO2 / AVD (Aqueous Vermiculite Dispersion) extinguishers are effective. For fires involving exposed, raw lithium metal (characterized by deep red flames), use only metal (Class D) fire extinguishers. • Do not use Halon type extinguishing material.
Special Fire Fighting Procedures	• Use a positive pressure self-contained breathing apparatus (SCBA) if cells or batteries are involved in a fire. • Full fire fighting protective clothing is necessary. • During water application, caution is advised as burning pieces of flammable particles may be ejected from the fire.
Unusual Fire and Explosion Hazard	• Cells or batteries that are damaged, opened or exposed to excessive heat/fire may flame or leak potentially hazardous organic vapours.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- In the event a cell or battery is crushed; releasing its contents, rubber gloves must be worn to handle all battery components.
- Avoid inhalation of any vapours that may be emitted.
- Damaged batteries that are not hot or burning should be placed in a sealed plastic bag or container.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling	• Batteries are designed to be recharged. However, improperly charging a cell or battery may cause the product to flame or leak. Use only approved chargers and procedures. • Never disassemble a battery or bypass any safety device. • More than a momentary short circuit will cause temporary battery voltage loss until the battery is subjected to a charge. Batteries have re-settable fuses that can be reactivated through applying a charge to the battery. • Extended short-circuiting creates high temperatures in the cell. • High temperatures can cause burns in skin or cause the cell to flame. • Avoid reversing battery polarity within the battery assembly. To do so may cause cell to flame or to leak.
Conditions for Safe Storage and Incompatibility	• Batteries should be separated from other materials and stored in a non-combustible, well ventilated structure with sufficient clearance between walls and battery stacks. Do not place batteries near heating equipment, nor expose to direct sunlight for long periods. • Do not store batteries above 60°C (140°F) or below -20°C (-4°F). Store batteries in a cool (below 25°C (77°F)), dry area that is subject to little temperature change. Elevated temperatures can result in reduced battery service life. Battery exposure to temperatures in excess of 130°C (266°F) will result in the battery venting flammable liquid and gases. • Do not store batteries in a manner that allows terminals to short circuit.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls and Work Practices	• Under conditions of normal use, batteries do not emit hazardous or regulated substances. • No engineering controls are required for handling batteries that have not been damaged.
Personal Protective Equipment	• Personal protective equipment for damaged batteries should include chemical resistant gloves and safety glasses. • In the event of a fire, SCBA should be worn along with thermally protective outer garments.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Battery Pack	UEL/LEL	Not Applicable
Odour	None	Vapor Pressure	Not Applicable
Odour Threshold	Not Applicable	Vapor Density	Not Applicable
pH	Not Applicable	Relative Density	Not Applicable
Melting Point	Not Applicable	Solubility	Not Applicable
Boiling Point	Not Applicable	Partition Coefficient	Not Applicable
Flash Point	Not Applicable	Auto-ignition Temperature	Not Applicable
Evaporation Rate	Not Applicable	Decomposition Temperature	Not Applicable
Flammability	Not Applicable	Viscosity	Not Applicable

SECTION 10: STABILITY AND REACTIVITY

Stability	Stable
Hazardous Polymerization	Will not occur
Conditions to Avoid	Prolonged overcharging and/or overheating. It is not recommended that this product be stored above 60°C (140°F).
Hazardous Decomposition	Carbon Monoxide (CO), and Hydrogen Fluoride (HF)
Reactivity	Damaged non-discharged batteries contain elemental Lithium that is water reactive. This reaction gives off heat and hydrogen gas.

SECTION 11: TOXICOLOGICAL INFORMATION

- No toxicological impacts are expected under normal use conditions.
- The electrolytes contained in this cell or battery can irritate eyes with any contact.
- Prolonged contact of electrolytes with lung tissue, skin or mucous membranes may cause irritation.
- Detailed information regarding sensitization, carcinogenicity, mutagenicity or reproductive toxicity related to internal cell or battery components has not been included in this document.

Carcinogen References

1. National Toxicity Program (NTP): No
2. IARC Monographs: No
3. OSHA: No

SECTION 12: ECOLOGICAL INFORMATION

- No ecological impacts expected under normal use conditions.

- Information on the ecological impact of internal cell or battery components has not been included in this document

SECTION 13: DISPOSAL INFORMATION

- Do not dispose of in fire.
- Battery disposal regulations vary on national, state/provincial and local bases. Disposal must be conducted in accordance with the applicable regulations.
- These batteries contain recyclable materials, and recycling is encouraged over disposal.

SECTION 14: TRANSPORT INFORMATION

Accutronics' lithium ion batteries are classified and regulated as Class 9 dangerous goods (also known as "hazardous materials" in the United States) by the International Civil Aviation Organization (ICAO), International Air Transport Association (IATA), International Maritime Organization (IMO) and many government agencies such as the U.S. Department of Transportation (DOT). These organizations and agencies publish regulations that contain detailed packaging, marking, labelling, documentation, and training requirements that must be followed when offering (shipping) Accutronics' batteries for transportation. However, small cells and batteries are not subject to certain provisions of the regulations (e.g. Class 9 labelling and UN specification packaging) if they meet specific requirements. The regulations are based on the UN Recommendations on the Transport of Dangerous Goods Model Regulations and the UN Manual of Tests and Criteria. These regulations also apply to shipments of cells and batteries that are packed with or contained in equipment. Failure to comply with these regulations can result in substantial civil or criminal penalties.

The dangerous goods regulations require that each battery design be subject to tests contained in Section 38.3 of the UN Manual of Tests and Criteria prior to being offered for transport. Approved, production level and batteries manufactured and assembled by Accutronics have been tested to Section 38.3 of the UN Manual of Tests and Criteria and passed tested T1 through T8.

Air, Sea and Surface Classification	UN 3480, Lithium Ion batteries UN 3481, Lithium ion batteries, contained in equipment UN 3481, Lithium Ion batteries, packed with equipment

IATA Packaging Guidance

UN3480	**Lithium Ion Batteries (Limited to a maximum of 30% SoC)**		
	PI965	Section 1A	batteries more than 100Wh or a single cell more than 20Wh
		Section 1B	batteries less than 100Wh or single cell less than 20Wh
		Section II	batteries less than 100Wh or single cell less than 20Wh (Max 2 batteries)
UN3481	**Lithium Ion Batteries Contained in Equipment**		
	PI967	Section I	batteries more than 100Wh or single cell more than 20Wh
		Section II	batteries less than 100Wh or single cell less than 20Wh
	Lithium Ion Batteries Packed with Equipment		
	PI966	Section I	batteries more than 100Wh or single cell more than 20Wh
		Section II	batteries less than 100Wh or single cell less than 20Wh

Hazard Class	9	Tunnel Code	E
Stowage Location	A	Marine Pollutant	No

SECTION 15: REGULATORY INFORMATON

US	Hazard Communication Standard (20 CFR 1910.1200)	Article
	CERCLA SECTION 304 Hazardous Substances	NA
	EPCRA SECTION 302 Extremely Hazardous Substance	NA
	EPCRA SECTION 313 Toxic Release Inventory	NA
	EPCRA SECTION 312	NA
	Components Listed on US Toxic Substances Control Act (TSCA) Inventory	Yes
	California Prop 65 Classification	None
EU	Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) 1907/2006	Article
	European RoHS2 Directive 2011/65/EU	NA
	European WEEE Directive 2012/19/EU Note: Applies to cells and batteries incorporated into electrical and electronic equipment, when that equipment becomes waste.	See Note
	Batteries and Waste Batteries Directive (EU)2023/1542	NA

SECTION 16: OTHER INFORMATION

The information contained herein is furnished without warranty of any kind. Users should consider this data only as a supplement to other information gathered by them and must make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

If returning a product to Accutronics, please consult the relevant regulations regarding their handling, packaging, labelling and transportation. Contact Accutronics for advice if required.

Revision History

Revision	Description	Date
4	In §5, AVD extinguisher added. In §15, “Batteries and Waste Batteries Directive (EU)2023/1542” added. (AN24-E078)	10th Dec 2024
3	Up issued. No technical changes to document	11th Sep 2022
2	Document ID changed from 1624_SDS to 1624B_SDS	10th Sep 2020
1	Revised to new format	24th Sep 2018

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