

Project name PSDS	CC3800GE Battery
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Prepared By	PWI
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1 SUBSTANCE AND COMPANY IDENTIFICATION

Product type Secondary (rechargeable) Lithium Ion battery pack sealed in an injection moulded plastic case.

Please see the Top Level Specification for specific battery configuration and performance information.

Model name **CC3800GE Battery**

Part No(s) **CC3800GE**

Ratings (typical) 3.7V 3.8Ah 14.1Wh

Manufactured by Accutronics Limited

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2 COMPOSITION

Ingredient	CAS No.	CHIP	Risk Phrase	Safety Phrase
Acrylonitrile Butadiene Styrene (ABS) (C ₈ H ₈) _x ·(C ₄ H ₆) _y ·(C ₃ H ₃ N) _z	9003-56-9			
Lithium Cobalt (III) Oxide (bound solid) LiCoO ₂	12190-79-3		R42, R43	S36
Carbon (bound solid)	7440-44-0		R36, R37	S22
Ethylene Carbonate (liquid) C ₃ H ₄ O ₃	96-49-1	Xi	R41	S26, S39
Diethyl Carbonate (liquid) C ₅ H ₁₀ O ₃	105-58-8	Xi, F	R11	S9, S16, S29, S33
Lithium hexafluorophosphate (dissolved solid) LiPF ₆	21326-40-3	T	R22, R24, R34	S26, S36, S37, S39, S45

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3 HAZARDS IDENTIFICATION

General In normal use and handling, this product poses no hazards.

Hazard under abnormal conditions if the battery pack and internal contents have ruptured - releasing fumes, liquids or solid fragments. Fumes and liquids may cause irritation to eyes, skin, breathing passages or throat. Solids and liquids from cell internals may cause irritation to the skin.

4 FIRST AID MEASURES

General In normal use and handling, this product poses no injury or health threat to personnel. First Aid measures are only required if the battery pack and internal contents have been subjected to abusive conditions causing rupture and exposing personnel to fumes, liquids or solid fragments.

Eyes In normal use and handling, this product poses no irritation threat to the eyes. Fumes from ruptured internal contents may cause irritation. Remove patient away from source. In more severe cases, flush the eye(s) with a recognised sterile eye-wash. If necessary, seek medical advice.

Skin In normal use and handling, this product poses no irritation threat to the skin. Material from ruptured internal contents may cause irritation and in severe cases, burns. Remove patient away from source. Where there is no irritation, clean area with soap and water. If irritation occurs, flush the affected area with clean water for a minimum of 10 minutes. If necessary, seek medical advice.

Ingestion In normal use and handling, this product poses no irritation threat to the throat. Material from ruptured internal contents may cause irritation. Ensure breathing passages are not obstructed. Ingestion is very unlikely unless the battery has ruptured and there is hand-to-mouth contact. Drink plenty of water or milk. If necessary, seek medical advice.

Inhalation In normal use and handling, this product poses no irritation threat to the breathing passages. Fumes from ruptured internal contents may cause irritation. Ensure breathing passages are not obstructed. Remove patient to fresh air. If symptoms persist, seek medical advice.

First aiders should protect themselves from exposure (see section 8).

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5 FIRE FIGHTING MEASURES

General	In normal use, handling and storage, this product poses no risk of fire. Risk of fire may occur if the battery pack and internal contents have ruptured or the battery pack is exposed to abusive overcharge or temperatures above 75°C.
Suitable extinguishers	If it is involved in a fire, use dry powder, foam or carbon dioxide (CO ₂) or an inert material – soil, sand etc. Water based extinguishers may be used as Lithium cells contain lithium compounds, not lithium metal. However water extinguishers must not be used, if the battery is connected to mains powered equipment.
Unsuitable extinguishers	Water (see paragraph above for clarification).
Exposure hazards	Trace amounts of toxic fumes may be produced on incineration.
Fire fighting equipment	Use approved self-contained breathing apparatus.

6 ACCIDENTAL RELEASE MEASURES

General	In normal use, handling and storage, this product will not cause any accidental release. In abnormal conditions, if the battery pack and internal contents have ruptured (releasing fumes, liquids or solid fragments) then the following precautions should be taken:
Exposure controls	Ventilate the area. Use cloth or paper towels to collect battery residue.
Personal protection	Wear suitable gloves – see section eight. If skin contamination is likely, wear impervious overalls.
Disposal	Solid material must not be disposed of in general waste or be incinerated. Dispose of in accordance with local authority regulations for batteries and accumulators.

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7 HANDLING AND STORAGE

General	In normal use and handling, this product poses no threat to Handling or Storage.
Handling	Do not incinerate. Do not drop or crush. Do not use if case shows signs of damage or contents are exposed. Do not allow connector terminals to be short-circuited.
Storage	The battery storage specification is -20°C to +60°C max 95% (non-condensing), however for optimum storage life, store in a cool (<30°C), dry, well ventilated conditions away from direct sunlight. Temperatures beyond 75°C can lead to electrolyte leakage and/or overheating of the battery pack and may cause damage to it.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

General	In normal use, handling and storage, this product will not cause any risk of exposure.
Occupational exposure limit	Not assigned
Biological exposure limit	Not assigned.
Respiratory protection	Local exhaust ventilation.
Hand protection	In normal use and handling, this product poses no irritation threat to the hands. If the battery pack is ruptured, use gloves – made of polyethylene or polypropylene materials only; do not use PVC, rubber, nylon or cotton gloves.
Eye protection	In normal use and handling, this product poses no threat to the eyes. If the battery pack is ruptured, wear suitable eye protection conforming to BS EN 166.
Skin and body protection	As for hand protection.

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9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solid. Battery pack sealed in an injection moulded plastic case
Colour	Grey moulding
Odour	Negligible.
pH	Not applicable.
Autoflammability	Not applicable.
Explosive limits	Not applicable.
Vapour pressure	<0.02 mmHg at 25°C.
Relative density	1.1 g/ml at 25°C.
Solubility	Insoluble in water.

10 STABILITY AND REACTIVITY

Stability	Stable at 0°C to +45°C (charging) and -10°C to +60°C (discharging), humidity 5-95%RH.
Materials to avoid	Water, alcohols, alkalis. Cleaning is done with dampened cloth with a neutral detergent or alcohol-free wipes.
Conditions to avoid	Extreme temperatures – see 'Storage', section 7.
Hazardous decomposition	None.

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11 TOXICOLOGICAL INFORMATION

Health effects This product does not elicit toxicological properties during routine handling and use. Chemicals used in Lithium-Ion cells are not health threatening in their bound form. However in their non-bound form they can be an irritant to eyes, skin and respiratory system. Lithium hexafluorophosphate is toxic to the skin. The effects are not long lasting unless continually exposed.

Sensitization None (under normal handling, storage and use)

Reproductive None (under normal handling, storage and use)

Toxicity None (under normal handling, storage and use)

Acute toxicity None (under normal handling, storage and use)

Routes of exposure None (under normal conditions); Inhalation, Absorption and Ingestion (under abnormal conditions).

12 ECOLOGICAL INFORMATION

General No adverse environmental effects are foreseen, but as with any electrical or electronic product, the battery or its contents are not biodegradable (and some of the materials are bio-accumulative). Product must not be disposed into landfill or water course; or incinerated to atmosphere, without specialised treatment.

13 DISPOSAL CONSIDERATIONS

General Dispose of in accordance with local and national regulations. Do not incinerate or expose cells to temperatures above 100°C. Such abuse may result in cell venting, electrolyte leakage and/or cell fire.

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14 TRANSPORT INFORMATION

General The batteries have been certified to United Nations Recommendations for the Transport of Dangerous Goods – Manual Tests and Criteria reference publication ST/SG/AC.10/11/Rev 5:2009 Tests T1-T5 & T7 Ref paragraphs 38.3.4.1 to 38.3.4.5 and 38.3.4.7.

The battery does not exceed a Watt-Hour rating of 100Wh.

These Lithium Ion batteries are considered to be "Rechargeable batteries" and through the certification and specification above, meet the requirements of transportation by:

AIR – by the International Civil Aviation Organization (ICAO), 2011-2012 edition, International Air Transport Association (IATA);

SEA – by the International Maritime Organization (IMO);

ROAD – by the European Agreement of Dangerous Goods by Road (ADR).

Please refer to the latest published editions of these standards for more information.

15 REGULATORY INFORMATION

RISK AND SAFETY

Risk phrases	R11	Highly Flammable
	R22	Harmful if swallowed
	R24	Toxic in contact with skin
	R34	Causes burns
	R36	Irritating to eyes
	R37	Irritating to respiratory system
	R41	Risk of serious damage to eyes
	R42	May cause sensitisation by inhalation
	R43	May cause sensitisation by skin contact

Safety phrases	S9	Keep container in a well-ventilated place
	S16	Keep away from sources of ignition - No smoking
	S22	Do not breathe dust

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- S26** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
- S29** Do not empty into drains
- S33** Take precautionary measures against static discharges
- S36** Wear suitable protective clothing
- S37** Wear suitable gloves
- S39** Wear eye/face protection
- S45** In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)

Other regulations Health & Safety at Work Act 1974.

Control of Substances Hazardous to Health Regs 2002.

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) - EU directive 1907/2006

Environmental Protection Act 1990

Restriction on the use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Regs 2008 and RoHS2 (2011)

Chemicals (Hazard Information & Packaging for Supply) Regs 2009

Waste Electronic & Electrical Equipment Regs 2006

Waste Batteries and Accumulators Regs 2009 (Batteries and Accumulators Directive 2006/66/EC)

The Batteries and Accumulators (Placing on the Market) Regs 2009

16 OTHER INFORMATION

This product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with legal regulations. The information contained herein is based on the present state of our knowledge and is intended to describe products from the point of view of safety requirements and thus should not be construed as guaranteeing specific properties. For further information, please contact Accutronics Ltd using the contact details on sheet 1.

This information relates solely to the specific product designated.

Accutronics Ltd does not accept liability for any loss or damage that may occur, whether direct, indirect or consequential, from the use of this information.