


<b>Product Safety Data Sheet</b>	<b>Document No.</b>	
	<b>Issue</b>	<b>01.03</b>
	<b>Date Last Amended</b>	<b>Jan 2017</b>
	<b>Last Amended by</b>	<b>DCS</b>
<b>Document Title</b>	<b>RB5V Lithium Battery Module PSDS</b>	



<b>Product Name:</b>	SafeSea Lithium Polymer Battery Module (13.3Wh) <b>Type №:</b> RB5V/1062		
<b>For use with:</b>	SafeSea V100/ACR SR203(A) GMDSS VHF handheld radio		
<b>Chemistry:</b>	LiCoO <sub>2</sub> /LiPF <sub>6</sub>	<b>Total Weight:</b>	112g
		<b>Nominal Voltage:</b>	7.4V
<b>Construction:</b>	Battery module containing two cells connected in series with protection circuitry		
<b>Lithium weight/cell:</b>	<0.5g	<b>Total lithium weight/battery:</b>	<1.0g

### Section 1 – Manufacturer Information

**Manufactured by:** Ocean Signal Ltd., Unit 4, Ocivan Way, Margate, Kent, CT9 4NN, United Kingdom

**Telephone number:** +44 (0)1843 282930

### Section 2 – Hazards Identification

This battery module is a sealed unit. In this condition there are no hazards identified. Should the battery be damaged to cause leakage of the cell contents, the following hazards should be noted.

**Ingestion:** Swallowing the contents of a damaged battery can be harmful

**Inhalation:** Contents of a damaged battery can cause respiratory irritation

**Skin Contact:** Contents of a damaged battery can cause irritation

**Eye Contact:** Contents of a damaged battery can cause serious damage


### Section 3 – Ingredients

Important Note: This battery module should not be opened or burned. Exposure to the contents may be harmful.

<b>Material or Ingredient</b>	<b>PEL (OSHA)</b>	<b>TLV (ACGIH)</b>	<b>%/wt.</b>
Lithium Cobalt(III) Oxide (CAS# 12190-79-3)	0.1mg/m <sup>3</sup>	0.02mg/m <sup>3</sup>	<17%
Lithium Hexafluorophosphate (CAS# 21324-40-3)	None Established	None Established	<2%
Ethylene Carbonate (CAS# 96-49-1)	None Established	None Established	<7%
Dimethyl Carbonate (CAS# 616-38-6)	None Established	None Established	
Diethyl Carbonate (CAS# 105-58-8)	None Established	None Established	
Ethyl Acetate (CAS# 141-78-6)	1400mg/m <sup>3</sup>	400ppm	

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<b>Material or Ingredient</b>	<b>PEL (OSHA)</b>	<b>TLV (ACGIH)</b>	<b>%/wt.</b>
Non Hazardous Components Steel, Copper, Aluminium, Plastics and other inert materials	None Established	None Established	Remainder

#### **Section 4 – First Aid Measures**

- Ingestion:** Seek medical advice. Do not induce vomiting or give food or drink.
- Inhalation:** Seek medical attention. Move to an area of fresh air and ventilate the contaminated area. Give oxygen or artificial respiration if required.
- Skin Contact:** Remove any contaminated clothing and wash affected areas with soap and water for a minimum of 15 minutes. Do not apply grease or ointments.
- Eye Contact:** Seek immediate medical attention. Immediately flush eyes with water for a minimum of 15 minutes. Ensure that both upper and lower eyelids are lifted during the flushing process.

#### **Section 5 – Fire Fighting Measures**

In case of fire involving lithium polymer batteries, use CO<sup>2</sup>, dry chemical or foam extinguishers. Do not use Type D extinguishers.

Fire responders should wear self contained breathing apparatus.

#### **Section 6 - Accidental Release Measures**

Should batteries leak the following actions are recommended.


- Ventilation:** Keep room containing leaking lithium polymer batteries well ventilated
- Respiratory Protection:** Avoid exposure to fumes from open or leaking batteries
- Eye protection:** Wear safety glasses with side shields when handling leaking batteries
- Gloves:** Neoprene or natural rubber gloves should be worn when handling leaking batteries
- Storage:** Leaking batteries should be stored in a leak proof container

#### **Section 7 – Handling and Storage**

- Storage:** Store in a cool, well ventilated area. Elevated temperature may result in shortened battery life.
- Handling:** Avoid accidentally short circuiting batteries. Prolonged short circuiting cause the battery temperature to rise and significantly reduce battery life.

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**Charging:** These batteries should only be charged using the recommended charger (RC1V). Do not attempt to charge with a charger that is not designed to protect against over charge of lithium polymer batteries. Failure to follow these guidelines may result in the battery exploding.

### **Section 8 – Exposure Controls / Personal Protection**

No special requirements are required for this battery under normal circumstances.

### **Section 9 – Physical and Chemical Properties**

The following applies only to the battery in its normal state. Only store or discharge the battery within the temperature range -30°C to +70°C. Only charge the battery within the temperature range 0°C to +50°C.

Boiling Point at 760mm Hg (°C)	Not applicable for this item
Vapour Pressure (mm Hg at 25°C)	Not applicable for this item
Vapour Density	Not applicable for this item
Density (g/cm <sup>3</sup> )	Not applicable for this item
Percent volatile by volume (%)	Not applicable for this item
Evaporation Rate	Not applicable for this item
Physical State	Solid
Solubility in water	Not applicable for this item
pH	Not applicable for this item
Appearance and odour	Solid object / no odour

### **Section 10 – Stability and Reactivity**

No stability or reactivity issues identified. The following precautions should be observed.

- To not heat above 70°C or incinerate.
- Do not deform, mutilate, crush pierce or disassemble.
- Do not short circuit.

### **Section 11 – Toxicological Information**

This battery module is not classified as hazardous waste. This battery module has been manufactured in accordance with the EU ROHS directive, 2002-95-EC.

### **Section 12 – Ecological Information**


No ecological issues have been identified for this battery

### **Section 13 – Disposal Considerations**

Dispose of battery module in accordance with applicable local regulations

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### **Section 14 – Transport Information**

This battery module has been tested in accordance with subsection 38.3 of part III of the UN Manual of Tests and Criteria.

This battery module is class 9, UN3840 (Lithium Ion Battery) and should be transported by air in accordance with the IATA dangerous goods regulations 58<sup>th</sup> edition, packing instruction 965 Section II.

When supplied with equipment it is class 9, UN3481 (Lithium Ion battery packed with equipment) it should be packed in accordance with packing instruction 966 Section II.

The battery modules may be transported by road under special provision 188 of the ADR.

### **Section 15 Regulatory Information**

No additional regulatory requirements are identified for this battery module.

### **Section 16 – Other**

No information