


<b>Product Safety Data Sheet</b>	<b>Document No.</b>	
	<b>Issue</b>	<b>01.00</b>
	<b>Date Last Amended</b>	<b>March 2016</b>
	<b>Last Amended by</b>	<b>DCS</b>
<b>Document Title</b>	<b>LB11V Lithium Battery PSDS</b>	



<b>Product Name:</b> Lithium Battery Pack	<b>Type №:</b> LB11V
<b>For use with:</b> E101V EPIRB / VDR float free capsule	
<b>Chemistry:</b> LiMnO <sub>2</sub>	<b>Total Weight:</b> 425g <b>Nominal Voltage:</b> 9V
<b>Construction:</b> Battery containing three Ultralife U10013 'D' cells connected in series	
<b>Lithium weight/cell:</b> 5g	<b>Total lithium weight/battery:</b> 15g

### 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 self contained 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 severe irritation


### Section 3 – Ingredients

Important Note: This battery 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 (CAS# 7439-93-2)	None Established	None established	3-4
Manganese Dioxide (CAS# 1313-13-9)	5mg/m <sup>3</sup> Ceiling (as Mn)	0.2mg/m <sup>3</sup> TWA (as Mn)	40-45
Propylene Carbonate (CAS# 108-32-7)	None Established	None Established	4-5
Ethylene Glycol Dimethyl Ether (CAS# 110-71-4)	None Established	None Established	3-4
1,2-Dimethoxyethane (CAS# 110-71-4)	None Established	None Established	3-4
Tetrahydrofuran (CAS# 109-99-9)	None Established	None Established	5-9
Lithium Perchlorate	None Established	None Established	1

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

- Ingestion:** Seek medical attention.
- Inhalation:** Avoid inhaling any vented gases. Remove to fresh air immediately. If breathing is difficult, seek emergency medical attention.
- Skin Contact:** May cause skin irritation when in contact with the cell contents. Remove any contaminated clothing and wash affected areas 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. Seek medical attention immediately.

#### **Section 5 – Fire Fighting 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. A carbon dioxide (CO<sub>2</sub>) extinguisher is also 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 Measures:** Use a positive pressure self-contained breathing apparatus (SCBA) if cells or batteries are involved in a fire. Full firefighting protective clothing is necessary. During water application, caution is advised as burning pieces of flammable particles may be ejected from the fire.
- Unusual Hazard:** Cells or batteries that are damaged, opened or exposed to excessive heat/fire may flame or leak potentially hazardous organic vapors.

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

Should batteries leak the following actions are recommended.


- Ventilation:** Keep room containing leaking lithium batteries well ventilated
- Respiratory Protection:** Avoid inhalation of 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.

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**Handling:** Avoid accidentally short circuiting batteries. Prolonged short circuiting cause the battery temperature to rise and significantly reduce battery life.

**Charging:** These batteries are not designed for charging. Do not attempt to recharge the battery. Recharging may result in cell venting or rupture releasing chemical that can cause burns to skin or cause the cell to flame.

Note: Contains a perchlorate material – special handling may apply.

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

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

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

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> )	
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. It is recommended that this product is not stored above 85°C (185°F). Storing above 20°C may reduce the battery capacity

### **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**

Do not dispose of in fire. 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 should be transported by air in accordance with the IATA dangerous goods regulations 57<sup>th</sup> edition, UN3090, packing instruction 968 section 1A.

When supplied with equipment it should be shipped as UN3091 and packed in accordance with packing instruction 970 section I.

The battery modules may be transported by road under the ADR regulations.

### **Section 15 Regulatory Information**

No additional regulatory requirements are identified for this battery module.

### **Section 16 – Other**

No information