

### SECTION 1: Identification

The specification describes the technical parameters for the WBAT battery pack.

- **Product name:** WBAT battery pack
- **Part number:** 319554
- **Manufacturer:** Kongsberg Maritime AS
- **Address:** Strandpromenaden 50, N-3190 Horten, Norway
- **Telephone:** +47 33 03 24 07 (24 h)
- **Telefax:** +47 33 04 29 87
- **E-mail address:** <https://www.simrad.com>
- **Website:** [simrad.support@simrad.com](mailto:simrad.support@simrad.com)

#### Note

*The WBAT battery pack is provided as a solid and sealed unit. The WBAT battery pack cannot be opened to reveal individual cells.*

*For additional information about the cells inside the sealed battery pack, see the safety data sheet provided by the cell manufacturer.*

<http://www.a123systems.com>

### SECTION 2: Hazards identification

The WBAT battery pack is not provided with any hazards identification. It is not classified as dangerous or hazardous with normal use.

The WBAT battery pack should not be opened or burned. The WBAT battery pack contains dangerous ingredients. Exposure to the ingredients contained within the WBAT battery pack cells could be harmful. The battery cells

include a barrier-preventing exposure to the user and environment. The WBAT battery pack cells are not classified as hazardous according to Regulation (EC) No. 1272/2008.

The chemicals in the battery cells are contained in a sealed enclosure. Risk of exposure occurs only if the cell is mechanically, thermally or electrically abused to the point of compromising the enclosure. If this occurs, exposure to the electrolyte solution contained within can occur by inhalation, ingestion, eye contact and skin contact. The electrolyte solution would be corrosive and can cause irritation and burns.

#### Other hazards

- **Overcharge:** If the cells that form the battery block are overcharged, the results may be a thermal runaway.
- **External fire:** Internal pressure and thermal runaway may be the consequences if the cells inside the battery are exposed to temperatures above 85 °C.
- **Internal short circuit:** Internal short circuit in a cell. Destruction of the separator can cause a short circuit between the anode and cathode. Thermal runaway and fire is possible.
- **Water ingress:** Internal pressure, thermal runaway and chemical reactions may be the consequence.

The WBAT Transceiver has a pressure relief valve at the bottom of the unit. The relief valve prevents overpressure. Noxious gases and ingredients will then leak out of the transponder until the chemical reactions have stopped. Products generated by the chemical reactions during an emergency may however clog this pressure release valve.

## SECTION 3: Composition

The WBAT battery pack is a solid, manufactured article.

A lithium battery pack consists of several individual cells that are electrical connected, both in series and parallel.

The battery packs have different number of cells, output voltages and power capacity. All transponder batteries include protection against short circuits (circuit breakers) and reverse current (diodes).

The cells used within the battery pack are manufactured by one of the following companies:

- Tadiran TL-2300
- Sonnenschein SL-780
- Saft LS 33600
- Saft LSH 20
- Sonnenschein SL-760

The lithium metal cells have the following chemical formula:

Lithium thionyl chloride — Li/SOCl<sub>2</sub>

- **Negative electrode:** Lithium
- **Positive electrode:** Carbon
- **Electrolyte:** A solution of lithium tetrachloroaluminate (LiAlCl<sub>4</sub>) in thionyl chloride
- **Battery name:** L14.4 (48) Maxi
- **Part number:** 319554
- **Battery weight:** 6.5 kg
- **Lithium weight:** 183 g

In case of hazardous events, the noxious gases are:

- Thionyl chloride (SOCl<sub>2</sub>)
- Sulphur dioxide (SO<sub>2</sub>)
- Hydrogen sulphide (H<sub>2</sub>S)
- Hydrogen chloride (HCl)
- Chlorine (Cl<sub>2</sub>)

## SECTION 4: First aid measures

The WBAT battery pack will release toxic fumes if burned or exposed to fire.

The battery will release toxic fumes if burned or exposed to fire. If subjected to gas from a burning battery, remove the source of contamination or move the victim to fresh air. Seek medical advice.

- **Inhalation:** The chemicals are lung irritant. Remove yourself from exposure, rest, and keep warm.
- **Skin contact:** The chemicals are skin irritant. Wash off skin thoroughly with water. Remove contaminated clothing and wash it before reuse.
- **Eye contact:** The chemicals are eye irritant. Irrigate thoroughly with water for at least 15 minutes.
- **Ingestion:** Exposure to the chemicals may cause tissue damage to throat and gastro/respiratory tract if swallowed. Wash out mouth thoroughly with water and give plenty of water to drink. Seek medical advice.

## SECTION 5: Firefighting measures

The WBAT battery pack in which the battery pack is used is designed to withstand damage to the internal battery pack. Non-flammable material is used. In case of fire, move WBAT battery pack from fire area if you can do it without risk. Extreme mechanical abuse to the WBAT battery pack may result in ruptured seal, and exposure.

- 1 If possible, move the battery and/or the WBAT Transceiver away from the fire.
- 2 Cool it down using lots of cold water.
  - a Immerse the battery and/or the WBAT Transceiver in the sea for minimum 24 hours.
  - b If this method is impossible, it can be cooled down with a fire hose.

Cooling down the battery with a large amount of cold water is the only way to reduce or stop

the internal chemical reactions, or to limit the fire/explosions to as few battery cells as possible. The chemical reactions/fire will continue without additional supply of oxygen, so an extinguisher such as Lith-X will not work properly.

Applying water directly onto a battery may develop hydrogen gas, due to the possible electrolysis if the battery terminals are exposed to water. Mixed with air, this gas is very inflammable/explosive. However, if the water cooling takes place on deck or in a storage room with good ventilation, there will never be enough hydrogen gas to exceed the lower explosive limit of hydrogen in air (about 4 %).

Note \_\_\_\_\_

*In case of an external fire, always remove WBAT Transceiver units and lithium batteries.*

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## **SECTION 6: Accidental release measures**

During normal operation, accidental release measures are not applicable. Extreme mechanical abuse to the WBAT battery pack may result in ruptured seal, and exposure.

As an immediate precautionary measure, isolate the spill or leak area at least 25 metres (75 feet) in all directions. Keep unauthorized personnel away. Stay upwind, and keep out of low areas. Ventilate closed areas before entering. Wear adequate personal protective equipment.

Prevent material from contaminating soil and from entering sewers or waterways. Stop the leak if safe to do so. Contain the spilled liquid with dry sand or earth. Clean up the spills immediately.

Absorb spilled material with an inert absorbent (dry sand or earth). Scoop contaminated absorbent into an acceptable waste container. Collect all contaminated absorbent and dispose

of it according to relevant regulations. Scrub the area with detergent and water; collect all contaminated water for proper disposal.

## **SECTION 7: Handling and storage**

Do not open, disassemble, crush or burn the WBAT battery pack.

- 1 Do not open, disassemble, crush or burn the WBAT battery pack.
- 2 Do not expose the battery to water, sea water or other high-conductivity liquids.
- 3 Avoid mechanical or electrical abuse.
- 4 Do not expose the WBAT battery pack to temperatures outside the range of -40 °C to +80 °C.

- 5 Store in a dry location.

Recommended relative air humidity is 40 to 70 %. To minimize any adverse affects on the WBAT battery pack performance it is recommended that it is kept at room temperature (25 °C +/- 5 °C). Elevated temperatures can result in shortened life.

- 6 Do not store the battery in direct sunlight.
- 7 Keep the WBAT battery pack out of reach of children.

A suitable storage room is properly ventilated, it has sturdy racks with dedicated cradles for the batteries, and it must allow for easy removal of batteries in case of fire. The room must be designated and clearly identified as a storage area, and entrance should be restricted. The room must not be used as a general rest or work area.

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*The storage room must have a sprinkler system or a fire station. A suitable fire hose (with water) must be placed outside or in the proximity of the room.*

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## SECTION 8: Exposure control and personal protection

Airborne exposures to hazardous substances are not expected when the battery is used for its intended purpose. No protection (respiratory, skin and/or eye) is then required. If the battery is damaged, and you are exposed to the chemicals inside, proper personal protection is required.

In the event of fire or physical damage to the battery, follow the mandatory rules for personal protection.

- **Fire or explosion:** Use a self-contained breathing apparatus.
- **Exposure to noxious gas:** Use a full-face mask with minimum BE filter and protective equipment of rubber or plastic. (*B* refers to protection against inorganic gases and *E* refers to protection against sulphur dioxide.)

## SECTION 9: Physical and chemical properties

The WBAT battery pack is solid with a firm and hard surface. No chemicals are exposed during normal use and transportation.

The battery pack is provided as a solid and sealed unit. The battery pack cannot be opened to reveal the individual cells.

For additional information about the cells inside the sealed battery pack, see the safety data sheet provided by the cell manufacturer.

## SECTION 10: Stability and reactivity

The WBAT battery pack is stable. No specific handling requirements apply.

In normal use, the battery pack is placed inside the sealed WBAT Transceiver.

Water ingress into the WBAT Transceiver can cause dangerous situations.

Short-circuiting, overheating, mechanical damage and exposure to water can start chemical reactions and cause high currents inside the lithium battery. This can generate noxious gases and/or cause danger of explosion. The chemical reactions will continue without additional supply of oxygen, as the battery cells contain the necessary ingredients for maintaining the chemical reactions.

- 1 Do not open, disassemble, crush or burn the WBAT battery pack.
- 2 Do not expose the battery to water, sea water or other high-conductivity liquids.
- 3 Avoid mechanical or electrical abuse.
- 4 Do not expose the WBAT battery pack to temperatures outside the range of -40 °C to +80 °C.
- 5 Store in a dry location.  
Recommended relative air humidity is 40 to 70 %. To minimize any adverse effects on the WBAT battery pack performance it is recommended that it is kept at room temperature (25 °C +/- 5 °C). Elevated temperatures can result in shortened life.
- 6 Do not store the battery in direct sunlight.
- 7 Keep the WBAT battery pack out of reach of children.

## SECTION 11: Toxicological information

Acute oral, dermal and inhalation toxicity data are not available for this WBAT battery pack.

Risk of irritation occurs only if the WBAT battery pack is abused to the point of breaking the container and opening it to reveal the individual cells. If this occurs, irritation to the skin, eyes and respiratory tract may occur.

## SECTION 12: Ecological information

The WBAT battery pack is not biodegradable.

Provided that the battery pack is disposed of according to local regulations and/or law, it will not have any environmental impact.

### **SECTION 13: Disposal considerations**

Dispose of the batteries in accordance with local, state and federal laws and regulations for batteries.

A lithium thionyl chloride battery does not contain any heavy metals, and is therefore not regarded as special waste (contains only biodegradable parts).

A used WBAT Transceiver lithium battery often contains a significant amount of residual energy. It is the danger of explosion that presents a problem when disposing a battery. Used batteries must therefore be handled with the same care as new ones.

Note \_\_\_\_\_

*For safe disposal, contact the nearest local company that has been approved to collect and dispose of lithium batteries.*

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### **SECTION 14: Transport information**

Transportation of the WBAT must be performed in accordance with rules and regulations stated for transportation of dangerous goods in the applicable countries.

Transport identification codes:

- **Aircraft:** IATA DGR
- **Sea transport:** IMDG
- **Railway:** RID
- **Road transport:** ADR

Original shipping boxes must be used for all transport.

Only new separate WBAT Transceiver lithium batteries can be transported by air.

Air transport of all transponders with new lithium battery, and new separate transponder lithium batteries, is only permitted on board cargo aircraft. The goods must be clearly labelled: **CARGO AIRCRAFT ONLY.**

Note \_\_\_\_\_

*During transport a lithium battery must always be disconnected from the electronics.*

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