



MATERIAL SAFETY DATA SHEET

Date: 28/01/2015

Reference No.: PBXMSDSV-1.28012015

1. PRODUCT / COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Triton XT 18V Lithium Ion Battery Pack.

XT2AHB / EU739916 / AU492076

Item	Nominal Value	Remark
Nominal Voltage	18V	UN3480 / UN3481(packed in or with equipment)
Nominal Capacity	2Ah	
Wh-Capacity	36Wh	

XT3AHB / EU803323 / AU842878

Item	Nominal Value	Remark
Nominal Voltage	18V	UN3480 / UN3481(packed in or with equipment)
Nominal Capacity	3Ah	
Wh-Capacity	54Wh	

Item	Nominal Value	Remark
Nominal Voltage	18V	UN3480 / UN3481(packed in or with equipment)
Nominal Capacity	1.5Ah	
Wh-Capacity	27Wh	

MANUFACTURER

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2. MATERIAL IDENTIFICATION AND INFORMATION

Chemical Name	CAS#	OSHA PEL	ACGIH TLV	%wt
Metal Oxide	-	-	-	25-40%
Aluminium	7429-90-5	15mg/m ³ TWA	10mg/m ³ TWA	3-10%
Graphite Carbon	7782-42-5	5mg/m ³ TWA	2mg/m ³ TWA	10-20%
Copper	7440-50-8	0.1mg/m ³ TWA	0.2mg/m ³ TWA	10-20%
Organic Electrolyte	-	N/A	N/A	5-15%

3. HAZARDS IDENTIFICATION

Do not short circuit, puncture, incinerate, crush, immerse, force discharge or expose to temperatures above the declared operating temperature range of the product. Risk of fire or explosion. The batteries described in this Product Safety Data Sheet are sealed units which are not hazardous when used according to the recommendations of the manufacture. Under normal conditions of use, the electrode materials and electrolyte they contain are not exposed to the outside, provided the battery integrity is maintained and seals remain intact, Risk of exposure only in case of abuse (mechanical, thermal, electrical) which leads to the activation of safety valves and or the rupture of the battery containers. Electrolyte leakage or battery vent explosion/fire may follow, depending upon the circumstances.

4. FIRST AID MEASURES

Inhalation: Contents of an open battery can cause respiratory irritation. Inhalation of vapours may cause irritation of the upper respiratory tract and lungs. Provide fresh air and seek medical attention.

Skin Absorption: Ethylene carbonate, diethyl carbonate and dimethyl carbonate may be absorbed through the skin causing localised inflammation.

Skin Contact: Contents of an open battery can cause irritation and/or chemical burns. Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, seek medical attention.

Eye Contact: Contents of an open battery can cause severe irritation and chemical burns. Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower eye lids until no evidence of the chemical remains. Seek medical attention.

Note: Acetylene black and cobalt compounds are listed as possible carcinogens by the international Agency for Research on Cancer (IARC).

5. FIRE FIGHTING MEASURES

Chemical, and foam extinguishers are preferred for small fires, but also may not extinguish burning lithium ion battery. Burning battery will burn them out. Virtually all fires involving lithium ion battery can be controlled with water. When water is used, however, hydrogen gas may be evolved which can form an explosive mixture with air. LITH-X (powdered graphite) or copper powder fire extinguishers, sand, dry ground dolomite or soda ash may also be used. These materials act as smothering agents. Fire fighters should wear self-contained breathing apparatus. Burning lithium ion battery can produce toxic fumes including HF, oxides of carbon, aluminium, lithium, copper, and cobalt. Volatile phosphorus penta-fluoride may form at a temperature above 110°C (230° F).

6. SPECIAL PROTECTION INFORMATION





Ventilation Requirements: Not necessary under normal conditions.

Respiratory Protection: Not necessary under normal conditions.

Eye Protection: Not necessary under normal conditions. Wear safety glasses with side shields if handling an open or leaking battery.

Gloves: Not necessary under normal conditions. Use neoprene or natural rubber gloves if handling an open or leaking battery.

Open Battery Storage: Battery should not be opened. Should a cell become disassembled, the electrode should be stored in a fireproof cabinet, away from combustibles.

7. HANDLING & STORAGE

HANDLING:

Do not expose the battery to excessive physical shock or vibration. Short circuiting should be avoided; however, accidental short-circuiting for a few seconds will not seriously affect the battery. Prolonged short circuits will cause the battery to rapidly lose energy, could generate enough heat to burn skin. Sources of short circuits include jumbled battery in bulk containers, coins, metal jewellery, metal covered tables, or metal belts used for assembly of battery in devices. To minimize risk of short-circuiting, the protective case supplied with the battery should be used to cover the terminals when transporting or storing the battery. Do not disassemble or deform the battery. Should an individual cell within a battery become ruptured, do not allow contact with water.

STORAGE:

Store the battery at ambient temperature in clean environment without chemical vapour nor excessive humidity or temperatures above 80°C which can result in loss of battery performance, leakage, or rust. Do not expose the battery to open flames.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection: Use a respirator that has been selected by a technically qualified person for the specific work conditions.

Eye Protection: Wear safety glasses with side shields (or goggles).

Skin Protection: Wear rubber gloves and normal work clothing.

Other: Eye wash, washing facilities, safety shower.

9. PHYSICAL & CHEMICAL CHARACTERISTICS

Appearance: Cylindrical Shape

Odour: If leaking, smells of medical ether

PH: Not applicable as supplied.





Flash Point: Not applicable unless individual components exposed.

Flammability: Not applicable unless individual components exposed.

Relative Density: Not applicable unless individual components exposed.

Solubility (Water): Not applicable unless individual components exposed.

Solubility (Other): Not applicable unless individual components exposed.

10. PHYSICAL HAZARDS (STABILITY & REACTIVITY)

Stability: Stable

Do not heat or incinerate the battery, never impact, pierce or crush the battery.

Do not disassemble or modify the battery.

Do not charge the battery under high temperature conditions such as near a fire or in the direct sunlight.

Do not short-circuit the battery by connect the positive and negative terminals with a metal material.

Reactivity: Avoid contact with water and acids.

Hazardous decomposition products: If Al package foil of battery is damaged, the battery should avoid contact with strong oxidants, acids and high temperatures, and the electrolyte will be formed HF.

11. TOXICOLOGICAL INFORMATION

Irritation: Organic solvent and lithium hexafluorophosphate are virulent material, metal oxide is poisonous.

12. ECOLOGICAL INFORMATION

Biological resolvability: Difficult to biologically resolve.

13. DISPOSAL CONSIDERATION

Dispose in accordance with appropriate regulations. Opened cells should be treated as hazardous waste. Burn the waste in a safety furnace and recycle Co, Ni, Mn, Cu, Al.

14. TRANSPORT INFORMATION

Based on IATA dangerous goods regulations 56th edition (English) effective 1st January 2015, delivery of cells or batteries via air transportation must be transported in accordance with the requirement of packing instructions 965. The battery model listed has aggregated equivalent lithium content below the 8g requirement. And the battery is considered to be compliant with inner package, package weight, marking and label requirements declared in packing instruction 965. These products are considered safe for air transportation.

15. REGULATORY INFORMATION





See ACGIH exposure limits information as noted in Section 2.

US: This MSDS meets/exceeds OSHA requirements.

International: This MSDS conforms to European Union (UN), the International Standards Organization (ISO) and the International Labour Organization (ILO) and as documented by the American National Standards Institute (ANSI) standard Z400.1-1993.

16. OTHER INFORMATION

The information contained within this MSDS was obtained from sources which we consider to be reliable. However, this information is provided without any warranty, express or implied, regarding its correctness. The condition or methods of handling, storage, use and disposal of the product is beyond our control and may be subject to local/state regulations. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising from or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared to be used only for these products. If these products are used as a component in another product, the information contained within this MSDS may not be applicable.

