

LITHIUM BATTERY HANDLING DOCUMENT

TO: AIR CARRIER REGARDING SHIPMENT WITH LITHIUM ION BATTERIES, THIS SHIPMENT CONTAINS:

**Lithium Batteries contained in equipment
(ICAO/IATA Packing Instruction 967, Section II)
≤ 2 batteries or 4 Cells installed in equipment**

(Enclosed Electronic Instrument Contains 2 Lithium Ion Batteries, Each With Less Than 20 Watt-Hours Per Cell And Less Than 100 Watt-Hours Per Battery)

Handle with care as that a flammability hazard exists if the package is damaged.

Special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary.

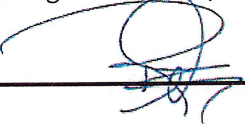
(Plastic Box/Case is Overpacked in Fibreboard Overpack Box. Minor Damage to Overpack Box Should Not Compromise The Integrity Of The Inner Packaging—Plastic Box/Case)

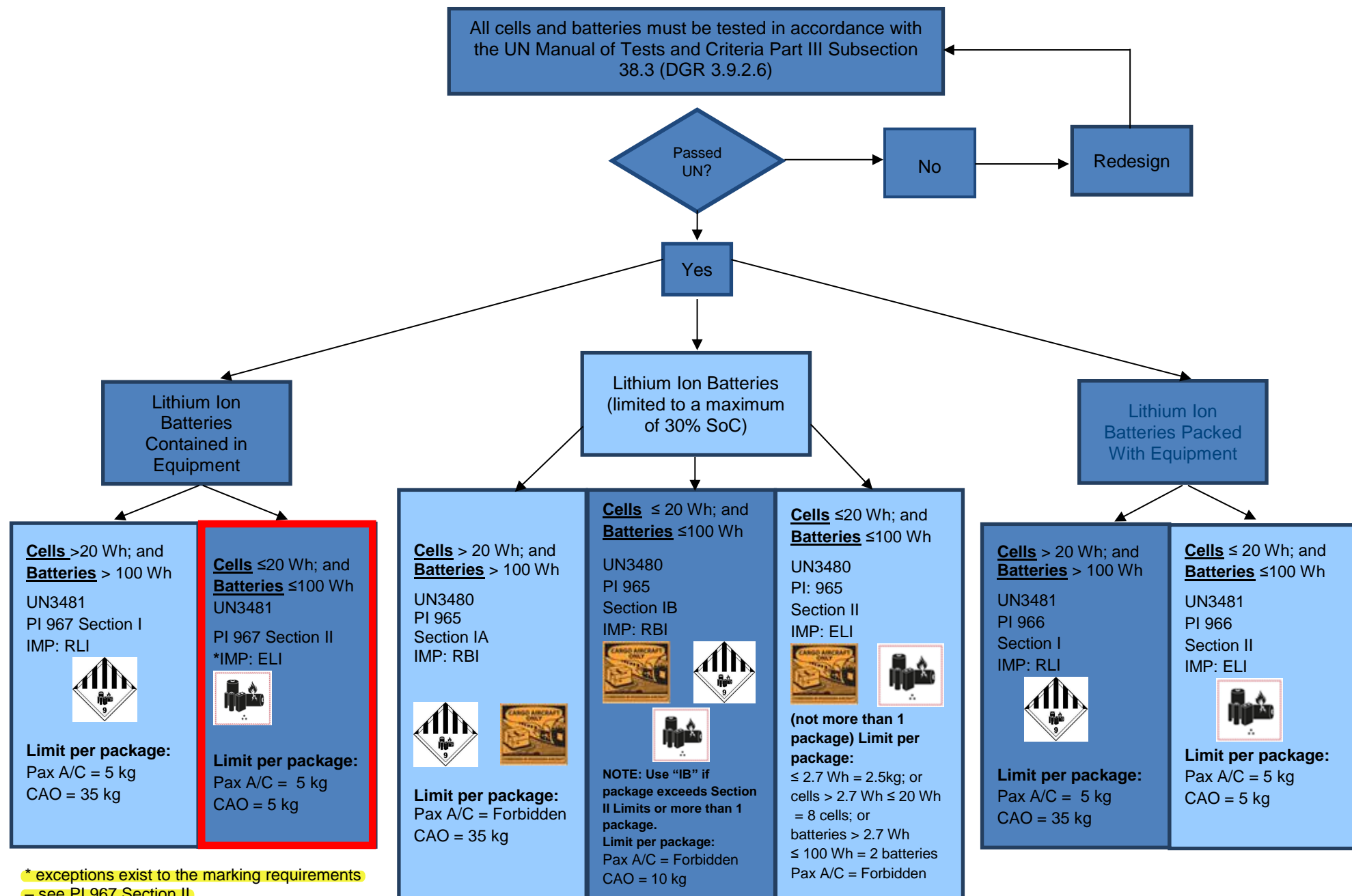
For Additional Information Regarding Lithium Ion Batteries Call:

+1.425.641.0944 Or e-mail: support@sequoiasci.com.

(For: Sequoia Scientific, Inc., 2700 Richards Road, #107, Bellevue, Washington 98005 U.S.A.)

Signed Regina Andrews/Materials Manager, Sequoia Scientific, Inc. Date: 3 January 2018





E. If I have smaller packages, can I use a smaller lithium mark?

Where the packages are of dimensions such that they cannot bear the full size lithium battery mark, the mark dimensions may be reduced to 105 mm wide x 74 mm high. The design specifications remain otherwise the same.

F. When is a lithium battery mark not required on the package?

A lithium battery mark must not be affixed to packages prepared in accordance with Section IA of Packing Instructions 965 and 968 and Section I of Packing Instructions 966, 967, 969 and 970.

A lithium battery mark is not **required** for packages prepared in accordance with Section II of PI 967 or PI 970 containing only button cell batteries installed in equipment (including circuit boards) or consignments of two packages or less where each package contains no more than four cells or two batteries installed in equipment.

Note:

The Air Waybill is only required to contain the statements "Lithium [ion or metal] batteries in compliance with Section II of PI9XX" when the lithium battery mark is affixed to the package(s).

G. Section II in Packing Instructions 967 and 970 states that “the lithium battery mark is not required on consignments of two packages or less where each package contains no more than four cells or two batteries installed in equipment.” What is the intent of this provision?

This provision is to require, where there are more than two packages in the consignment, that each package bears the lithium battery mark, and therefore the air waybill has the compliance statement e.g. “Lithium [ion or metal] batteries in compliance with Section II of PI 9xx [67 or 70]”.

The provision continues to allow for small consignments of one or two packages containing no more than four cells or two batteries installed in equipment per package to move without the lithium battery mark and therefore without the compliance statement on the air waybill.

Note:

A consignment is one or more packages of dangerous goods accepted by an operator (airline) from one shipper at one time and at one address, receipted for in one lot and moving to one consignee at one destination address.

H. I have an MP3 player that contains one single-cell lithium ion battery. Do I have to mark the shipping box that contains each MP3 player? What if I place five MP3 players in a shipping box? Does this require the lithium battery mark?

For packages of single MP3 players, no lithium battery mark would be required since you can place up to 4 of these single-cell batteries in a box without applying the lithium battery mark on the outer box. In the case where 5 MP3 players are in a shipping package, a lithium battery mark on the shipping package is required.

I. Can a single lithium battery mark be used to identify that both lithium metal and lithium ion batteries are contained inside the package?

Yes. The mark may bear all applicable UN numbers, e.g. UN 3091, UN 3481, to identify that the package contains lithium metal batteries packed with, or contained in equipment and lithium ion batteries packed with, or contained in equipment.

J. What are the requirements for the telephone number on the lithium battery mark?

The telephone number should be of a person knowledgeable about the shipment but is not intended to be for the purposes of obtaining immediate emergency response guidance, and is therefore not required to be monitored at all times that the package is in transit. It is acceptable



AA Portable Power Corp

www.batteryspace.com, Email: Sales@batteryspace.com

Safety Data Sheets (SDSs)

Section 1 - Identification

Product Name: Lithium Ion/Lithium Polymer Rechargeable Battery (LiCoO₂)

Part Number: LCH4P2S3R1WR

Manufacturer / Distributor Name: AA Portable Power Corp

Address: 825 S 19th Street, Richmond, CA 94804, **Tel:** 510-525-2328 **Fax:** 510-439-2808

Email: sales@batteryspace.com

Emergency Tel (Within USA and Canada): CHEMTREC 1-800-424-9300

Emergency Tel (Outside USA and Canada) for Shipment to USA: CHEMTREC +1
703-527-3887

Recommended Use: General use

Restrictions on Use: N/A

Section 2 – Hazard(s) Identification

Intact batteries present no specific hazards. If batteries show signs of leaking, AVOID skin or eye contact with the material leaking from the battery. If battery is burning, put out the fire by using right extinguisher.

Potential Health Hazards:

Eye: No particular hazards for proper use. It will cause severe irritation or chemical burn when batteries are broken.

Skin: No particular hazards for proper use. It will cause skin severe irritation by inhalation of EC and Routes of Entry: DMC or chemical burn when batteries are broken.

Inhalation: It will irritate breath system by being exposed to fumes when batteries are broken.

Ingestion: It is deleterious by swallowing battery. Broken batteries will cause severe chemical burn to mouth, esophagus and gastro enteric system

Environment hazards: It will cause different harms to man and environment.

Burning and exploding hazards: When the battery is short-circuited, over charged or over heated, it may cause electrolyte of the battery leaked out or the battery exploding.

Required Label Elements:N/A

Section 3 – Composition/Information on Ingredients

Ingredient	Content (percent of total weight)	CAS Index No.	EINECS
LithiumCobalt Oxide(LiCoO ₂)	50%	12190-79-3	235-362-0
Carbon(Graphite)	10%	7782-42-5	231-955-3
PP	5	9003-07-0	N/A
PVDF	2	24937-79-9	N/A
PE	5	9002-88-4	N/A
CMC	0.5	9004-32-4	N/A
LiPF ₆	5	21324-40-3	244-334-7
EC	5	96-49-1	202-510-0
DMC	5	616-38-6	210-478-4
Ni	2.5	7440-02-0	231-111-4
Cu	5	7440-50-8	231-159-6
Al	5	7429-90-5	231-072-3

Trade Secret Claims:N/A

Section 4 – First-aid Measures

Eye

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin

Remove contaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid.

Inhalation

Remove from exposure and move to fresh air immediately. Use oxygen if available.

Ingestion

Give at least 2 glasses of milk or water. Induce vomiting unless patient is unconscious. Call a physician

Section 5 – Fire-fighting Measures

Hazard properties:

The battery may be over-heated by outside and interior short-circuit, and burning batteries may emit toxic fumes.

Hazardous Combustion products:

Metallic oxide, Carbon oxide(CO), Carbon dioxide(CO₂), etc.

Extinguishing Media:

Species D fire extinguishers of chemical dry powder, yellow sands. Do not use water.

Firemen safeguard:

Firemen should wear fire-fighting suits with a self-contained breathing apparatus

Section 6 - Accidental Release Measures

Steps to be taken in case Material is Released or Spilled

If the battery is accidentally broken and organic electrolyte leaks out, wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can. The preferred response is to leave the area and allow the batteries to cool and vapors to dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate.

Waste Disposal Method

It is recommended to discharge the battery to the end, to use up the metal lithium inside the battery, and to bury the discharged battery in soil.

Section 7 - Handling and Storage

Handling:

- Do not vibrate the battery excessively.
- Avoid short-circuiting the battery. Though short-circuit for little time will not influence badly the battery, short-circuit for long time will lose the battery's energy and bring plenty of heat which will burn skin and cause fire or explosion indeed.
- The equipments of metal which are used for battery pack such as coin, metal accouterments, metal worktable, metal strip, etc. are source of short-circuit.



- It should be provide with effective measures to prevent short-circuit during transportation and storage.
- Do not disassemble and damage the battery.
- The battery should be transported with 10-50% charged states.
- Do not contact the battery with water.
- Do not store the battery in the place with point-blank sunshine.
- The battery should be 40-60% charged for long time storage.
- The battery should be stored in the place where is cool, dry and lee.

Storage:

- High temperature may cause the battery capability loss, leakage and rustiness.
- Do not expose the battery to fire.
- Store the battery away from moisture.

Section 8 - Exposure Controls / Personal Protection

Respiratory Protection

In case of battery venting, provide as much ventilation as possible. Avoid confined areas with venting batteries. Respiratory Protection is not necessary under conditions of normal use.

Ventilation

Not necessary under conditions of normal use.

Protective Gloves

Not necessary under conditions of normal use.

Other Protective Clothing or Equipment

Not necessary under conditions of normal use.

Personal Protection is recommended for venting batteries

Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields.

OSHA's Permissible Exposure Limits (PELs):N/A

Threshold Limit Values (TLVs):N/A

Section 9 - Physical and Chemical Properties

Please refer most updated information by searching the product part# at

www.batteryspace.com



Section 10 - Stability and Reactivity

Stability: Stable

Conditions to Avoid: Short-circuit, collision, refit, high temperature (over 100°C), point-blank sun shine and high humidity environment.

Hazardous Decomposition Products: Toxic gas brought when burning.

Hazardous Polymerization: N/A.

Incompatibility (Materials to avoid): Electric materials, water, seawater, oxidant, acid.

Section 11 - Toxicological Information

Inhalation, skin contact and eye contact are possible when the battery is opened. Exposure to internal contents, the corrosive fumes will be very irritating to skin, eyes and mucous membranes. Overexposure can cause symptoms of non-fibrotic lung injury and membrane irritation.

Numerical Measures of Toxicity: No toxicity.

Section 12 - Ecological Information

Ecological toxicity:

The chemicals of the battery will cause harm to the environments if it is discarded to the surroundings.

Biodegradability: No information available.

Non-biodegradability: No information available.

Section 13 - Disposal Considerations

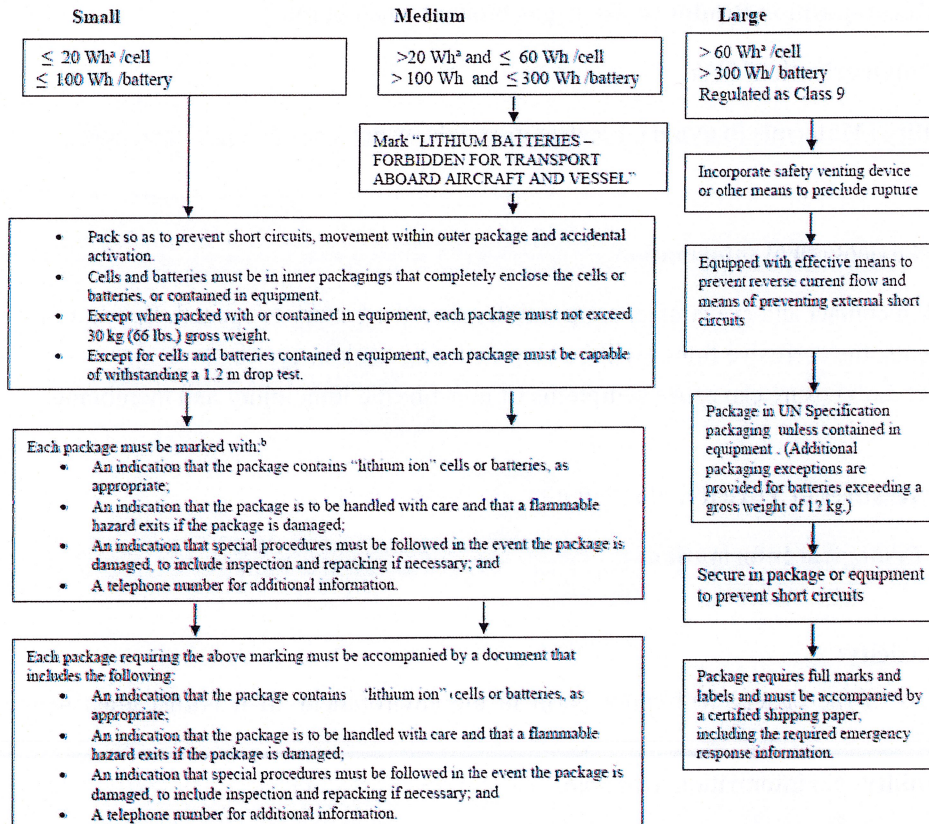
APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

If batteries are still fully charged or only partially discharged, they can be considered a reactive hazardous waste because of significant amount of unreacted or unconsumed lithium remaining in the spent battery. The batteries must be neutralized through an approved secondary treatment facility prior to disposal as a hazardous waste. Recycling of battery can be done in authorized facility, through licensed waste carrier.

Section 14 - Transport Information

All cells and batteries (regardless small/medium/large batteries) must be proven to meet the requirement of each test in the UN Manual of Tests and Criteria.

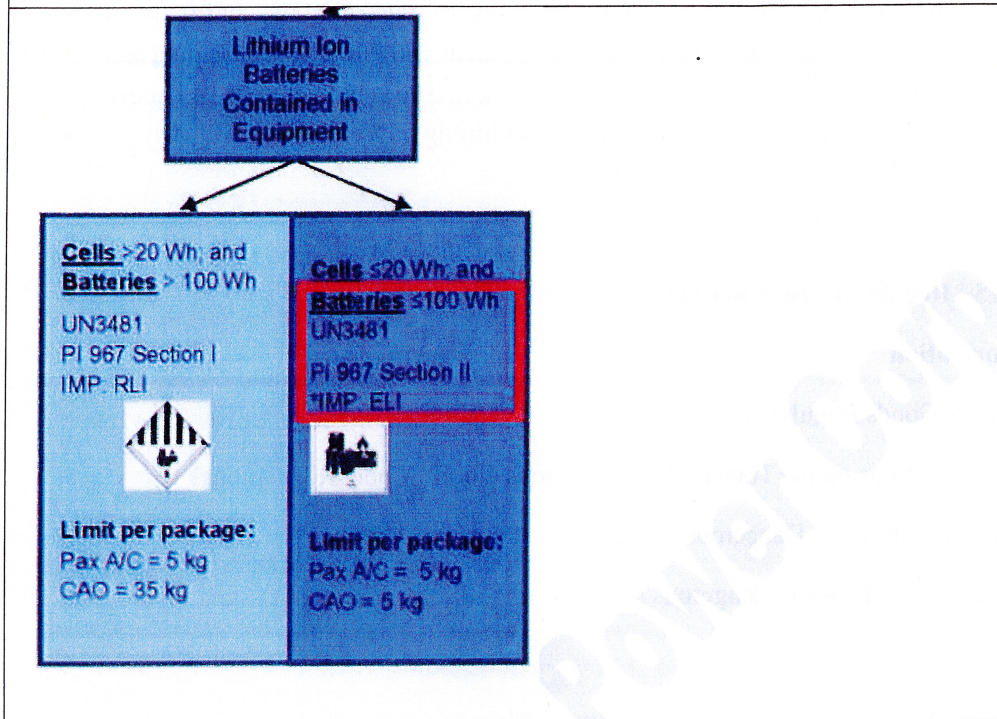
By Ground



a. Wh = Watt-hours rating

b. Does not apply to a package containing button cells installed in equipment or no more than four cells or two batteries installed in equipment

By Air



April 1st, 2016 – ICAO/IATA Air Regulations – Overpacking Li Ion and Lithium Metal Cells/Batteries

New ICAO/IATA regulations will prohibit the “Overpacking” of Section II cells and batteries under Packing Instructions 965 (Lithium Ion) and 968 (Lithium Metal). After April 1, 2016 air shipments under Section II of the regulations will be limited to one 2.5 kg package. Multiple 2.5 kg packages will not be allowed unless they ship as Class 9.

This change will have the largest impact on servicing direct customer base. While shipping lithium product by air will still be possible via Class 9 shipping, it will become more complicated and expensive. We highly recommend ordering within lead time so boat shipments can be used or maintaining inventory of the product.

April 1st, 2016 – ICAO/IATA Air Regulations – Li Ion State of Charge

New ICAO/IATA regulations will limit the State of Charge (SOC) to 30% for all lithium ion cells and batteries on both Passenger and Cargo aircraft. Please refer to Packing Instructions 965, Section 1A, 1B and Section II. This will impact just the shipment of cells and batteries by air, not the shipment of cells and batteries “packed with” or “contained in” equipment



Separate Li-ion batteries when shipping to prevent short-circuiting. They should be packed in strong packaging for support during transport. In the case of transportation, confirm no leakage and no overspill from a container. Take in a cargo of them without falling, dropping and breakage. Prevent collapse of cargo piles and wet by rain. The container must be handled carefully. Do not give shocks that result in a mark of hitting on a cell. Please refer to Section 7-HANDLING AND STORAGE also.

Section 15 - Regulatory Information

Law Information

《Dangerous Goods Regulation》

《Recommendations on the Transport of Dangerous Goods Model Regulations》

《International Maritime Dangerous Goods》

《Classification and code of dangerous goods》

IATA 2016 DGR 57th edition

49CFR 173.185

OSHA Hazard Communication Standard Status

Toxic Substances Control Act (TSCA) Status

SARA Title III

RCRA

In accordance with all Federal, State and Local laws.

Section 16 - Other Information

The above information is based on the data of which we are aware and is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

SDS Creation Date: September 23, 2015


SDS Revision Date: January 12, 2017

Li-ion 18650 Battery: 10.8V 5.2Ah (56Wh, 7A rate, 2x3S/S, ICR18650B4) - UN38.3 Passed



Product ID # 2940
Part Number: LCH4P2S3R1WR

Battery	<ul style="list-style-type: none"> 10.8 V Li-Ion rechargeable battery is made by 6 LG 18650 2600mAh cylindrical cells (3S2P) The battery pack is wrapped by double layer of black PVC shrink tube
Voltage	Voltage: 10.8V (working) 12.6V (peak) 8.25V (cut-off)
Capacity	Nominal: 5200 mAh; Minimum: 5000mAh
Protection	<ul style="list-style-type: none"> 1x PCB (7A) installed with the battery pack and protects the battery from <ul style="list-style-type: none"> Overcharge / Overdischarge / Over drain / Short circuits 1x 7 Amp polyswitch to limit max. discharging current at 7 A and to protect wrong polarity
Terminal	6" 16 AWG wire installed on the battery pack
Charge Current	<ul style="list-style-type: none"> Standard: 0.5C / 2500mA Maximum: 1C / 5000mA
Discharge Current	Standard: 0.2C / 1000mA; Max.: 0.5C/2500mA: -20 to 5°C 7000mA: 5-60°C
Dimension (LxWxH)	3.0" (76mm) x 2.5" (64mm) x 1.5" (38mm)
Weight	290 g (10.2 oz)
Temperature	Charge: 0 to 45°C Discharge: -20 to 60°C Storage: <ul style="list-style-type: none"> 1 month: -20 to 60°C 3 months: -20 to 45°C 1 year: -20 to 20°C

Warning	<ul style="list-style-type: none"> • Li-Ion battery may be exploded if mis-using. We are not responsible for any damages or losses caused by misuse (included but not limited to: mischarging, misdischarging, any changes of this battery pack, disassembling batterypacks) . • Always charge battery with attention. Battery pack shall be placed on a fire-proof place to avoid any accident • Please check battery polarity before plug battery into light. Never make wrong polarity connection. <ul style="list-style-type: none"> • For safety warning please see the link here • 
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UN38.3

Transports of Dangerous Goods

Test Report

Description:

Product Name	LCH4P2S3R1WR
Type	Li-ion Battery
Client	AA Portable Power Corp.
Manufacturer	AA Portable Power Corp.
Nominal Voltage	10.8V
Rated Capacity	5200mAh
Test Started	7/6/2017
Test Finished	8/11/ 2017



Test Result:

Item	STANDARD	Result
T1. Altitude simulation	UN38.3 Sixth Revised Edition	T1. Pass
T2. Thermal test		T2. Pass
T3. Vibration		T3. Pass
T4. Shock		T4. Pass
T5. External short circuit		T5. Pass
T6. Impact/Crush		T6. N/A
T7. Overcharge		T7. Pass
T8. Forced discharge		T8. N/A

The submitted battery and component cells were complied with the stated requirement of UN38.3 Sixth Revised Edition.

Edited by: *Alan, Bo-feng*

Checked by: *Rocky Xu*

Approved by: *John*

Date: 8/11/2017