SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006

Section 1: Identification of the Substance/Preparation and of the Company/Undertaking

Product Name:	Titan8 Batteries(LTO)
Product Codes:	PRW-S5, PWR-S6, PWR-S7, PWR-S5-1200, PWR-S5-4700, PWR-S5-5100, PWR-S5-5100R, PWR-S5-4800, PWR-S5-3400, PWR-S5-3400R, PWR-S5-6500, PWR-S5-4900, PWR-S6-1200, PWR-S6-4700, PWR-S6-5100, PWR-S6-5100R, PWR-S6-4800, PWR-S6-3400, PWR-S6-3400R, PWR,-S6-6500, PWR-S6-4900
Product Use:	Engine Starting
Restrictions on Use:	For use as a battery-based power supply only. Do not rupture or expose solution inside of the battery.
Synonyms:	Lithium Ion Battery
Company Name:	Systematic Power Solutions LLC.
Address:	2847 John Deere Dr. Suite 102 Knoxville, TN 37917
Contract Number:	MIS3092986
Phone Number:	1 (865) 688-5953
Fax Number:	1 (865) 281-9844
24-hour Emergency:	1 (800) 255-3924
International 24-hour Emergency:	+1-813-248-0585
Transportation Emergency:	1 (888) 533-7762

Section 2: Composition/Information On Ingredients

Chemical Name	CAS No.	Weight Percentage
Complex oxide positive active material including lithium, manganese and the other elements	——	20 - 30
Lithium Titanate	——	10 - 20
Electrolyte solvent (main components are cyclic and linear carbonates)	——	10 - 20
Electrolyte salt (lithium salt of fluoro complex compound)	——	Li in electrolyte: 0.05 0.15 F in electrolyte: 1.5 2.5

Section 3: Hazarads Identification

The chemical components of the battery are enclosed in the container to have no hazard as a battery. The battery is a lithium ion battery and its improper use may causes deformation, leakage of electrolytes (liquid in the battery), over heating, bursting, fire or generation of stimulus/corrosive gas. Be sure to observe the warning and instructions as these events result in injury and equipment failure.

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Section 4: First Aid Measures

No problem arises from the use under normal conditions. However, take the following measures when the internal cell material such as electrolyte leaks out from the battery.

Inhalation	The inhalation of the electrolyte vapor may causes to evoke vomiturition and respiratory distress. Remove the patients to fresh air and seek immediate medical attention if they complain to feel sick.
Skin Contact	Wash it off with a plenty of water with soap. When the patients complain itching or present inflammation, seek immediate medical attention.
Eye Contact	Flush the eyes with running water at least for 15 minutes and seek medical attention.
Ingestion	If ingested the internal cell materials, rinse mouth thoroughly with water. Then seek immediate medical attention.

Section 5: Fire Fighting Measures

Fire Extinguisher	We recommend a powdery fire extinguisher and carbon dioxide as extinguishant. Pouring a large amount of water is effective for cooling the peripheral area to prevent the area from catching fire.
Instructions	When extinguishing, wear respiratory protection gear to prevent from inhaling the toxic gas and carry out extinguishment from the windward

Section 6: Accidental Release Measures

Take the following measures when the internal cell materials of the battery such as electrolyte leak out.

Precautions	Wear protective gear to prevent from exposure and avoid inhale of vapor and attachment of the electrolyte to the skins.
Removal	Retrieve the solid contents to vacant container. Wipe them off with dry cloth if they are scattered.
Area of Leakage	Prohibit the entry to the peripheral area by persons other than related personnel, take the measures mentioned above and ventilate the area sufficiently.

Section 7: Handling And Storage

Be sure to comply with all the items described in delivery specification and manual including below:

(1) Be sure to take off metal articles such as watch, put on protective gloves and safety shoes before handling the battery.
(2) When connecting cable to the battery (hereinafter, 'cable' includes a conducting wire or a conductor), be sure to use insulated tool.
(3) Do not disassemble or modify the battery.
(4) Do not short-circuit (+) and (-) terminals with conductive material.
(5) Do not throw the battery into fire, or expose it to heat.
(6) Do not use or leave the battery near a fire or in very hot place.

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Section 7: Handling And Storage(cont'd)

(7) Do not drive nails in to the battery, or strike it with a hammer, or step on it in fear of deformation or damage to protection mechanisms.
(8) Do not expose the battery to strong shocks due to fall or being thrown.
(9) Do not use the battery if exposed to shocks due to fall.
(10) Do not submerge the battery to become wet.
(11) Do not install the battery backwards so that the polarity is reversed.
(12) Do not charge nor discharge under unspecified conditions.
(14) When handling the cell, be sure to comply with the specified rules to connect the battery.
(15) Do not use or test a damaged battery.
(16) When misuse causes the temperature of the battery to abruptly rise with gas emission or smoke or fire, cool it with sand or powdery fire extinguisher or CO2 extinguisher.
(17) During long term storage, be sure to keep the batteries' voltage maintained so that it doen not drop below the specified voltage.
(18) Be sure to store the battery in a place where the battery can not be exposed to rain, high humidity, and avoiding direct sun light, hot temperatures to avoid the high risk of fire.

Section 8: Exposure Controls/Personal Protection

Respirator Protection	Not required in a normal operating state
Ventilation	Not required in a normal operating state
Protective Gloves	Not required in a normal operating state
Eye Protection	Not required in a normal operating state
Other Protections	Not required in a normal operating state

Section 9: Physical and Chemical Properties

N/A

Section 10: Stability and Reactivity

Avoid conditions where two or more batteries are used or stored without insulating terminals, the batteries may over heat, burst or fire due to short circuit. If they are over charged, heated or thrown into fire, it causes rapid outburst of electrolyte. When the batteries are disassembled, it may cause heating and ignition due to short circuit.

Section 11: Toxicological Information

N/A

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Section 12: Ecological Information

N/A

Section 13: Disposal Considerations

The disposal of lithium ion batteries shall be carried out in compliance with the relevant laws and regulations of the country where the batteries are disposed. The used batteries shall be disposed after taking the measure to avoid external short circuit such as insulating the both terminals by applying insulating tapes as there may be a case where some electric energy still remains in the used batteries.

Section 14: Transportation Information

This information is based on the United Nations (UN) Recommendations. However, some regulations depend on shipping mode and country/area. Please consult with the forwarder or airline / shipping company before the shipment of this battery.

Lithium-ion battery is categorized as the following classification of dangerous goods stipulated by UN Recommendations on the Transportation of Dangerous Goods, Model Regulations.

UN Number:	UN3480
Name:	Lithium Ion Batteries
Class:	Class 9

The transportation of lithium ion batteries shall be carried out in compliance with the relevant country or international laws and regulations.

Section 15: Regulatory Information

(1) Recommendations on the Transport of Dangerous Goods: Model Regulations

(2) Recommendations on the Transport of Dangerous Goods: Manual of tests and criteria

(3) IATA (International Air Transport Association) Dangerous Goods Regulations

(4) IMDG (International Maritime Dangerous Goods) Code

Section 16: Other Information

The contents of this Product Safety Data Sheet are based on the materials and information obtained by Systematic Power Solutions, LLC at the preparation of the document. The contents could be modified with new information without notice. Systematic Power Solutions, LLC would not take responsibility for troubles or defects out of the specified use.
NA = Not Applicable