

**FILE NO: LSGEN20160531**

*Article* means a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, *e.g.*, minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of this section), and does not pose a physical hazard or health risk to employees.

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**SECTION 1: IDENTIFICATION**

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Product Name: Lithium Ion Rechargeable Battery  
Product Part Number(s): BAT-7-12-PN8A-30 (7S12P) - 937.4 Wh  
BAT-7-16-PN8A-30 (7S16P) - 1250 Wh

UN Hazmat No.: UN3480

Manufacturer: **Lithiumstart Inc.**  
Address: 384 Oyster Point Blvd., Ste. 16  
South San Francisco, CA 94080-1968

Phone Number: USA: +1 (415) 762-0066  
International: +1 (800) 520-8864

Emergency Number: Chemtrec  
For Chemical Emergency ONLY USA: +1 (800) 424-9300  
International: +1 (703) 527-3887

Batteries may be shipped in kits with the products intended to power or installed in the products themselves.

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**SECTION 2: HAZARD(S) IDENTIFICATION**

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Emergency Overview: Not considered dangerous as manufactured. If battery exterior case is damaged, exposure to product components may cause eye, skin and respiratory tract irritation. Combustion products from a fire involving batteries may be harmful.

Eyes: No effect under routine handling and use  
Skin: No effect under routine handling and use  
Ingestion: No effect under routine handling and use  
Inhalation: No effect under routine handling and use  
Acute Health Hazards: No effect under routine handling and use  
Chronic Health Hazards: No effect under routine handling and use  
Medical Conditions Aggravated by Exposure: No effect under routine handling and use

# SAFETY DATA SHEET



Hazard Classification(s): Not applicable under normal use in accordance with UN Conference Or UNCED and Occupational Safety & Health Administration (OSHA) 29 CFR 1910.1200

Signal Word: Not applicable under normal use in accordance with UN or UNCED and Occupational Safety & Health Administration (OSHA) 29 CFR 1910.1200.

Hazard Statement(s): Not applicable under normal use in accordance with UN Conference Or UNCED and Occupational Safety & Health Administration (OSHA) 29 CFR 1910.1200

Interactions with Other Chemicals: Immersion in high conductivity liquids may cause corrosion and breaching of the cell enclosure. The electrolyte solution inside of the power cells may react with alkaline (basic) materials and present a flammable hazard

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## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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This battery is an article as **defined** by USA 29 CFR 1910.1200 and is not a controlled product under WHMIS. Exposure to hazardous ingredients is not anticipated under normal product use.

Cell component	Chemical Name*	Mass range in cell (g/g %)
Electrolyte salt	Includes one or more of the following: Lithium hexafluorophosphate Lithium transition metal oxidate	1-10
Electrolyte solvents	Includes one or more of the following: Organic electrolyte	10-30
Structural components	Aluminum, copper, steel, carbon, and polyethylene	60-89

\* Not every product includes all of these materials.

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## SECTION 4: FIRST AID MEASURES

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General: If exposure to internal materials within cell due to damage outer casing, the following actions are recommended:

Eyes: Rinse eyes with water for 15 minutes and seek medical attention

Skin: Wash area thoroughly with soap and water and seek medical attention

Ingestion: Drink milk/water and induce vomiting, seek medical attention

Inhalation: Leave area immediately and seek medical attention

**SECTION 5: FIRE-FIGHTING MEASURES**

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GENERAL FIRE HAZARDS: See Section 9 for Flammability Properties. Battery cells may rupture when exposed to excessive heat. Electrolyte solution will burn if the cell is incinerated.

Hazardous Combustion Products: May release toxic fumes if burned or exposed to fire. Combustion products include, but are not limited to hydrogen fluoride, carbon monoxide and carbon dioxide.

Extinguishing Media: Use appropriate extinguishing agent for surrounding fire. For damaged or ruptured cells, use Class D extinguisher or other appropriate agent. Class C extinguishers should be used to extinguish electrical fires. Do not use water to extinguish electrical or ruptured cell related fires.

Fire Fighting Equipment and Precautions: Use NIOSH / MSHA approved full-face self-contained breathing apparatus (SCBA) with full protective gear.

NFPA Ratings:                      Health:            0  
   Fire:                1  
   Reactivity:       0

Hazard Scale:                    0 = Minimal  
   1 = Slight  
   2 = Moderate  
   3 = Serious  
   4 = Severe

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**SECTION 6: ACCIDENTAL RELEASE MEASURES**


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Accidental Release Measures: If battery casing is crushed, small amounts of electrolyte may leak. Remove personnel from area. If skin comes into contact with the electrolyte, it should be washed thoroughly with water. Using protective glasses and gloves, use sand to absorb any spilled electrolyte. Assuming they are not hot, damaged batteries and contaminated absorbent material should be placed in a sealed plastic bag or container and disposed of according to local regulations.

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**SECTION 7: HANDLING AND STORAGE**


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Handling and Storage: Do not open, disassemble, crush, short (+) and (-) battery terminals or leads with conductive materials.  
 Storage Store battery in a cool dry place.

Other Precautions: Do not expose battery to extreme heat or fire.

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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**


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Engineering Controls: Keep away from heat and open flames. Store in a cool, dry place  
 Ventilation: Not required during normal usage.  
 Respiratory Protection: Not required during normal usage. SCBA required in the event of a fire.  
 Eye Protection: Not required beyond safety practices of employer.  
 Skin Protection: Not required during normal usage.  
 Other Personal Protection: Not required during normal usage.  
 Hygienic Practices: Not required beyond safety practices of employer.  
 Exposure Guidelines: Not applicable.

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**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**


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Appearance:	Rectangular Box	Specific Gravity:	n/a
Odor:	None	Evaporation Rate:	n/a
Physical State:	Solid	VOC:	n/a
pH:	n/a	Octanol/H <sub>2</sub> O COEFF:	n/a
Vapor Pressure:	n/a	Flash Point:	n/a
Vapor Density:	n/a	Upper Flammability Limit:	n/a
Boiling Point:	n/a	Lower: Flammability Limit:	n/a
Melting Point:	n/a	Burning Rate:	n/a
Solubility (H <sub>2</sub> O):	Insoluble	Auto Ignition:	n/a

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**SECTION 10: STABILITY AND REACTIVITY**

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Stability:	Stable
Conditions to Avoid:	Avoid exposure to heat and open flame
Incompatibility (Material to Avoid):	None during normal operations. Avoid exposure to corrosives.
Hazardous Decomposition	None during normal operations. If cells are opened, hydrogen
By-Products:	fluoride and carbon monoxide may be released
Hazardous Polymerization:	None
Conditions To Avoid (Polymerization):	Avoid exposure to heat and open flame. Do not puncture, crush or incinerate.

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**SECTION 11: TOXICOLOGICAL INFORMATION**

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Toxicological Information:	This product does not elicit toxicological properties during routine handling and use.
Sensitization:	No
Teratogen:	No
Reproductive Toxicity:	No
Acute Toxicity:	No

If the battery cells are opened through misuse or damage, discard immediately according to Section 13. Internal components of cell are irritants.

Acute Toxicity Data:	Not available for this article.
Corrosivity:	Not applicable
Sensitization:	Not available
Neurological Effects:	Not applicable
Genetic Effects:	Not applicable
Reproductive Effects:	Not applicable
Developmental Effects:	Not applicable
Carcinogenicity:	Normal safe handling of this product will not result in exposure to substances that are considered human carcinogens by International Agency for Research on Cancer, American Conference of OSHA, Governmental Industrial Hygienists, or National Toxicology Program.

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**SECTION 12: ECOLOGICAL INFORMATION**

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Ecological Information:	Not available
Ecotoxicity:	Not available
Mobility:	Not available
Persistence and Degradability:	Not readily biodegradable
Bioaccumulative potential:	Not available
Other adverse effects:	Solid cells released into the natural environment will slowly degrade and may release harmful or toxic substances. Cells are not intended to be released into water or on land but should be disposed or recycled according to local regulations.

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**SECTION 13: DISPOSAL CONSIDERATIONS**

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Waste Disposal Method:	Recycle battery. Do NOT dispose of in water bodies or sewer systems. All handled in accordance with local, state and federal regulations.
RCRA Hazard Class:	None applicable for this product's components.

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**SECTION 14: TRANSPORT INFORMATION**

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U.S. Department Of Transportation:	Proper Shipping Name: Lithium battery Hazard Class: 9 ID Number: 3480
Water Transportation (IMDG):	Proper Shipping Name: Lithium Ion Batteries Hazard Class: 9 ID Number: 3480
Air Transportation (IATA/ICAO):	Proper Shipping Name: Lithium Ion Batteries Hazard Class: 9 ID Number: 3480

This product has been tested and certified to meet Section 38.3 of the UN Manual of Tests and Criteria.

SECTION 14 NOTES: When the battery is shipped in equipment the UN ID Number should be changed to "3481" and the Proper Shipping Name to "Lithium Ion Batteries Contained in Equipment".

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**SECTION 15: REGULATORY INFORMATION**

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Transportation Within the US: DOT 49 Code of Federal Regulations  
Air Transportation (IATA/ICAO): UN3480 or UN3481  
Water Transportation (IMDG): UN3480 or UN3481

USA:

TSCA Status: All ingredients in the product are listed on the TSCA inventory.  
SARA Title III: None  
Sec. 302: None  
Sec: 304: None  
Sec. 311/312: None  
Sec. 313: None  
CERCLA RQ: None

California Prop 65: This product does not contain chemicals known to the State of California to cause cancer or reproductive toxicity.

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**SECTION 16: OTHER INFORMATION**

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Disclaimer: The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with all Federal, State or provincial, and local laws.