



# MSDS

Report No.: BST13060127Y-IRR-4.

Date: Jun. 08, 2013

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## Material Safety Data Sheets

### Section 1 - Product and Company Identification

#### MICRO-START

**Product Identification:** Micro-Start XP-10, XP-1, XP-3, XP-5

**Supplier Name:** ANTIGRAVITY BATTERIES LLC

**Supplier Address:** 12936 S. Figueroa St. Los Angeles, CA 90061

**Emergency Contact-** Scott Schafer

**24 Hour Phone:** 310-948-1265

**Fax:** 310-957-2412

**Sample model:** XP-3, XP-1

The device described above is tested by us with the listed standards and found it and model Xp-1,Xp3 have the same material quality and manufacturing engineering the model name. "Micro Start" has passed tests(Report NO.BST12050470Y-IRR-4 has the detailed content ). So, no tests are necessary. The test results are contained in this test report. Shenzhen BST Technology Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

**Signed for and on behalf of**

**Andy Zheng/Technical Director**

This report shall not be altered, increased or deleted. The results shown in this test report refer only to the sample(s) tested. Without written approval of BST, this test report shall not be copied except in full and published as advertisement. BST Physical & Chemical Lab.

**Dongguan BST Testing Co., Ltd.**



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### Section 2 – Composition/Information on Ingredients

#### Micro-Start

**Product Name:** Micro-Start

**The difference between the single product and mixture:** mixture

#### **Constitutes(For the whole):**

Chemical Formula	CAS No.	Content/%
Polypropylene (PP)	9003-07-0	15.16
Polyethylene (PE)	9002-88-4	0.58
PCB	--	16.00
Polyvinylchloride (PVC)	9002-86-2	2.34
Rubber	9006-04-6	0.16
Copper	7440-50-8	0.02
Battery	--	65.73

#### **Constitutes(For the battery):**

Chemical Name	CAS No.	Content/%
Lithium Cobalt Oxide(LiCoO <sub>2</sub> )	12190-79-3	43.02
Carbon(C)	7440-44-0	25.35
Copper(Cu)	7460-50-8	9.77
Aluminum(Al)	7429-90-5	7.42
Dimethyl carbonate(C <sub>3</sub> H <sub>6</sub> O <sub>3</sub> )	616-38-6	5.35
Ethylene carbonate(C <sub>3</sub> H <sub>4</sub> O <sub>3</sub> )	96-49-1	4.27
Lithium hexafluorophosphate(LiPF <sub>6</sub> )	21324-40-3	2.02
Polypropylene((C <sub>3</sub> H <sub>6</sub> ) <sub>n</sub> )	9003-07-0	1.09
polyvinylidene fluoride((C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> ) <sub>n</sub> )	24937-79-9	1.15
Nickel(Ni)	7440-02-0	0.56



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### Section 3 - Hazards Identification information

#### Micro-Start

#### **Health Hazards (Acute & Chronic):**

Typically, Micro-Start as a whole, no harm. However, due to short out or short out, smoke that may arise, when the smoke concentration exceeds the limit, once inhaled, can cause respiratory system damage.

### Section 4 - First Aid Measures

#### Micro-Start

#### **First Aid:**

**Eyes:** Get medical attention.

**Skin:** Swabbed out and water to clean.

**Inhalation:** Leave quickly from the scene to fresh air place. Keep airway open. Such as difficulty breathing, give oxygen. If stopped breathing, once artificial respiration. Go to a doctor.

**Ingestion:** Go to a doctor.

### Section 5 - Fire Fighting Measures

#### Micro-Start

**Hazardous Characteristics:** Encounter flame can burn. And antioxidant can happen reaction. By the high thermal decomposition emit poisonous gases.

**Hazardous Combustion Products:** Carbon monoxide, Carbon dioxide, Nitrogen oxides.

**Extinguishing method:** Water spray cooling container, moved the container to the empty place if possible. If the vessel in the fire already discoloration or from safety relief-pressure devince voice, must produce evacuated immediately.

**Extinguisher:** Bubble, carbon dioxide, dry powder, sandy soil.



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### Section 6 - Accidental Release Measures

#### Micro-Start

**Steps to be taken in case Material is Released or Spilled:** Leave quickly leakage pollution area personnel to safety, and isolation, strictly limiting access. Cut off the fire. Suggest emergency personnel wearing self-sustaining positive pressure type respirator, wear anti-static work clothes. As cut leakage source. Prevent ditch into sewer pipes, such restrictive space. Small spills with sand, vermiculite, or other inert materials absorption. Massive leak: to construct the beach or dig a pit asylum. Covered with foam, reduce steam disasters. Use explosion-proof pump metastasize to the tank or special collector inside, recycling or shipped to the waste disposal sites disposal.

**Waste disposal method :** It is recommended to discharge the Micro-Start to the end, handing in the abandoned EPOWERto related department unified, dispose of the Micro-Start in accordance with approved local, state, and federal requirements. Consult state environment protection agency and/or federal EPA.

### Section 7 - Handling and Storage

#### Micro-Start

- Newly type gas mask (comprehensive mask), wearing protective clothing, wear rubber gloves.
- From direct sunlight, heat and workplace forbids smoking.
- Use explosion-proof type ventilation systems and equipment.
- Prevent steam leakage into the workplace atmosphere.
- Avoid contact with antioxidants. Handling want light light, prevent packaging and container unloading damage.
- Equipped with corresponding varieties and number of fire equipment and leakage emergency treatment equipment.

#### **Precautions to be taken in handling and storing**

- Stored in a cool, well-ventilated area.
- Far from fire, heat source.
- Keep out of reach of children & pets.
- With oxidant, edible chemicals should be stored apart, avoid by all means is mixed storage.
- Do not place the Micro-Start near heating equipment, nor expose to direct sunlight for long periods.
- Equipped with corresponding varieties and number of fire equipment.
- Storage areas shall be equipped with emergency treatment equipment and appropriate leakage of asylum materials.



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### Section 8 - Exposure Controls & Personal Protection

#### Micro-Start

##### **Respiratory Protection:**

The higher concentration in the air when filter brand-newly type gas mask, wearing a mask (half).

**Ventilation:** Not necessary under conditions of normal use.

**Protective Gloves:** Wear rubber gloves.

##### **Other Protective Clothing or Equipment :**

- Wearing protective clothing.
- Maintain good health habits.

### Section 9-Physical and Chemical Properties

#### Micro-Start

##### **For the whole:**

- **Appearance and properties:** shape
- **Size:** 15.7cm × 7.4cm × 2.6cm
- **Substance estate:** Assembling
- **Shape:** solid
- **Storage temperature:** N/A
- **Decomposition temperature:** N/A
- **Fire point:** N/A
- **Test method:** N/A cup-opening
- **Self-ignite temperature:** Non-combustible
- **Explosion limit:** N/A

##### **For the battery:**

- **Substance estate:** mixture
- **Shape:** solid
- **Size:** 13cm × 4.5cm × 0.8cm
- **Color:** silver



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- **Smell:** thrill smell
- **Test method:** N/A cup-opening
- **Explosion limit:** N/A
- **Solubility:** The electrolyte dissoluble in water; and the whole battery isn't dissoluble in water
- **Nominal voltage:** 4000mAh , 11.1V

### Section 10 - Stability & Reactivity Data

#### Micro-Start

**Chemical Stability:** Stable.

**Conditions to Avoid:** Strong oxidizer, potassium, sodium

**Hazardous Decomposition Products:** N/A

**Hazardous Polymerization:** N/A

### Section 11 - Toxicological Information

#### Micro-Start

**Toxicological Information:** N/A

**Excitant:** Slightly

#### **Primary irritant effect**

- on the skin: No irritant effect.
- on the eye: No irritating effect.
- Sensitization: No sensitizing effects known.

#### **Additional toxicological information:**

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.

When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

**Toxicokinetics, metabolism and distribution:** No further relevant information available

**Acute effects (acute toxicity, irritation and corrosivity):** No further relevant information available



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### Section 12 - Ecological Information

#### Micro-Start

##### **Results of PBT and vPvB assessment**

- PBT: Not applicable.
- vPvB: Not applicable.
- Other adverse effects: No further relevant information available.

### Section 13 - Disposal Considerations

#### Micro-Start

##### **Waste treatment methods**

- Recommendation: Smaller quantities can be disposed of with household waste.

##### **Uncleaned packaging**

- Recommendation: Disposal must be made according to official regulations.

### Section 14 - Transport Information

#### Micro-Start

##### **For the whole:**

**Packaging methods:** wooden boxes, plastic or tin thin steel barrel (pot) outside full case box, fiberboard soleplate box or plywood box.

**Transport Fashion:** By air, by sea, by railway, by road.

**Attention:** Gentle with, prevent collision drag and dump, Avoid exposure.

##### **For the battery:**

All Polymer Lithium Laptop battery with the necessary testing requirements under the UN 38.3 Manual of Tests and Criteria as referenced in the following transportation regulations.

1. UN recommendations on the Transport of Dangerous Goods Model Regulations.
2. U.S. Department of Transportation of Dangerous Goods Model Regulations.



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3. International Civil Aviation Organization(ICAO) Technical Instructions.
4. International Maritime Dangerous Goods(IMDG)code.
5. IATA DGR 54th Edition[2013].
6. Transport Packing Specification: PI967

Polymer Lithium Laptop battery are exempted from these regulations since they meet all UN Testing requirements and Contain no more than 8 grams of equivalent lithium content.

Equivalent Lithium Content Calculation:

Under the UN 38.3 Manual of Test and Criteria 9ST/SG/AC.10/11/Rev.3), to determine the equivalent lithium Content of the lithium cell (and Laptop battery), multiply the rated capacity in ampere-hours of the cell by 0.3.(Under this formula, every ampere-hour in a lithium ion cell would be equivalent to 0.3 grams of lithium Metal)

Example: A lithium cell in a Laptop battery pack may have a rated capacity of 2.2 ampere-hours. Applying a Conversion factor of 0.3, a Laptop battery pack with 2 of those cells contains 1.32 grams of equivalent lithium Content.( $2.2 \times 0.3 \times 2 = 1.32$  grams of equivalent lithium content)

The Lithium-ion Laptop battery is packaged in the strong inner and outer package so as to prevent short circuits and prevent contacting with conductive materials within the same packaging .The gross weight of each packages is 10.0Kg.The package with batteries is capable of withstanding a 1.2m drop test in any orientation. According to PI967 Additional Requirements of IATA Dangerous Goods Regulations,the Lithium-ion Laptop battery is not restricted.

### **Section 15 - Regulatory Information**

#### **Micro-Start**

#### **LAW Information(For the battery):**

- 《Dangerous Goods Regulation》
- 《Recommendations on the Transport Of Dangerous Goods Model Regulations》
- 《International Maritime Dangerous Goods》
- 《Technical Instrctions for the Safe Transport of Dangerous Goods》
- 《Classification and code of dangerous goods》
- OSHA Hazard Communication Standard Status





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- Toxic Substances Control Act ( TSCA ) Status
- SARA Title III
- RCRA
- U.S. Federal Regulations
- European/International Regulations
- In accordance with all Federal, State and Local laws.

### **Section 16 - Other Information**

#### **Micro-Start**

**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 result 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.

BST confirmed the ninth item, the above content as reference information only. Please the user according to the demand to judge it usability. BST has no any responsibility.