



# Safety Data Sheet

## (SDS)

Creation Date: 2019/08/09

Revision Date: 2019/08/09

Version: 2019809

Prepared according to UN GHS (the 7th revised edition)

**Product Name: Lithium ion battery**

**Model: FH2417 25.2V 18.2AH 458.64WH**

**Company Name: HI-FORTUNE HEALTH PRODUCTS CO.,LTD.**

Written by TJTest Technology (Shanghai) Co.,Ltd.



## 1、 Identification of the chemical and supplier

### 1.1 Product identifier

**Product Name:** Lithium ion battery

**Product Model:** FH2417 25.2V 18.2AH 458.64WH

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Relevant identified uses:** Please consult manufacturer.

**Uses advised against:** Please consult manufacturer.

### 1.3 Details of the supplier of the Safety Data Sheet

**Name of the company:** HI-FORTUNE HEALTH PRODUCTS CO.,LTD.

**Address of the company:** NO.301,Qinhe Road, Zhangpu Town,Kunshan City,Jiangsu Province,China

**Telephone number:** +86 (0) 512-55195100-106

**Fax number:** +86 (0) 512-55199300

**Zip code:** /

**Email address:** feng.zhang@hi-fortune.net

### 1.4 Emergency phone number

**Emergency phone number:** **+86 (0) 512-55195100-106**

## 2、 Hazards identification

**2.1 Hazard classification according to GHS:** Lithium ion battery.

### 2.2 Label elements

**Hazard pictograms:** None.

**Signal word:** None.

### 2.3 Hazard statements::

None.

### 2.4 Precautionary statements

#### 2.4.1 Prevention

None.

#### 2.4.2 Response

None.

#### 2.4.3 Storage

None.

#### 2.4.4 Disposal

None.

### 2.5 Hazard description

#### 2.5.1 Physical and chemical hazards

This product is normally used without hazard.

#### 2.5.2 Health hazards

None.

#### 2.5.3 Environmental hazards

Please refer to 12th chapter of SDS.

## 3、 Composition/information on ingredients

Substance  Preperation 
**Composition:**

Component	CAS No.	EC No.	Concentration (weight percent, %)
Nickel compound	1313-99-1	215-215-7	0-25
Manganese compound	1313-13-9	215-202-6	0-15
Cobalt compound	1307-96-6	215-154-6	4-50
Styrene-Butadiene-Rubber	27288-99-9	—	<1
Polyvinylidene Fluoride(PVDF)	24937-79-9	200-867-7	<5
Aluminum Foil	7429-90-5	231-072-3	2-10
Copper Foil	7440-50-8	231-159-6	2-10
Carbon	7440-44-0	231-153-3	10-30
Electrolyte(Ethylene carbonate)	96-49-1	202-510-0	10-20
Lithium hexafluorophosphate	21324-40-3	244-334-7	<5
Wireway	—	—	1-3
Double faced adhesive tape	—	—	1-3
Stainless steel,Nickel and inert materials&Others	—	—	Remaining

## 4、First aid measures

### 4.1 Description of first aid measures

**General advice:** Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.

**Skin contact:** During production, take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15 minutes and consult a physician if fell uncomfortable.

**Eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if fell uncomfortable.

**Inhalation:** Under normal use conditions, no adverse effects will occur. If contact with decomposition products, irritation occurs. Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.

**Intake:** Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.

#### Protecting of first-aiders:

Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

### 4.2 Indication of any immediate medical attention and special treatment needed

- 1、Treat symptomatically.
- 2、Symptoms may be delayed.

## 5、Firefighting measures

### 5.1 Extinguishing media

1、 Suitable extinguishing media: Extinguish with misty water, alcohol-resistant foam, dry powder, carbon dioxide, or sand.

2、 Unsuitable extinguishing media: Do not use a solid water stream as it may scatter or spread fire.

### **5.2 Specific hazards arising from the substance or mixture**

1、 No data available.

### **5.3 Advice for firefighters**

1、 As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.

2、 Fight fire from a safe distance, with adequate cover.

3、 Prevent fire extinguishing water from contaminating surface water or the ground water system.

## **6、 Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

1、 Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.

2、 Ensure adequate ventilation. Remove all sources of ignition.

3、 Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

4、 Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.

### **6.2 Environmental precautions**

1、 Prevent further leakage or spillage if safe to do so.

2、 Discharge into the environment must be avoided.

### **6.3 Methods and materials for containment and cleaning up**

1、 Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

2、 Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

## **7、 Handling and storage**

### **7.1 Precautions for handling**

1、 Closed operation, full ventilation.

2、 Operators must be specially trained to strictly abide by the operating procedures.

3、 It is recommended that operators wear self-priming filter dust masks and chemical safety glasses.

4、 Keep away from fire, heat, and smoking in the workplace.

5、 Use explosion-proof ventilation systems and equipment.

6、 Avoid contact with oxidizing agents, reducing agents, and halogens.

7、 Equipped with the corresponding variety and quantity of fire-fighting equipment.

### **7.2 Precautions for storage**

1、 Store in a cool, ventilated warehouse.

2、 Keep away from fire and heat.

3、 It should be stored separately from oxidants, reducing agents, halogens, etc., and should not be mixed.

- 4、 Use explosion-proof lighting and ventilation facilities.
- 5、 It is forbidden to use mechanical equipment and tools that are prone to sparks.
- 6、 The storage area should be equipped with leakage emergency treatment equipment and suitable containment materials.

## 8、 Exposure controls/personal protection

### 8.1 Control Parameters

#### 8.1.1 Occupational exposure limits

##### Occupational Exposure limit values

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
All components	USA - OSHA	Unspecified	Unspecified	Unspecified	Unspecified
	South Korea	Unspecified	Unspecified	Unspecified	Unspecified
	Ireland	Unspecified	Unspecified	Unspecified	Unspecified
	Germany(AGS)	Unspecified	Unspecified	Unspecified	Unspecified
	Denmark	Unspecified	Unspecified	Unspecified	Unspecified
	Australia	Unspecified	Unspecified	Unspecified	Unspecified

#### 8.1.2 Biological limit values

Biological limit values: No information available

#### 8.1.3 Monitoring methods

1、 EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

2、 BZ/T 160.1~GBZ/T 160.81-2004 Determination of toxic substances in workplace air (Series standard) .

### 8.2 Engineering controls

- 1、 Ensure adequate ventilation, especially in confined areas.
- 2、 Ensure that eyewash stations and safety showers are close to the workstation location.
- 3、 Use explosion-proof electrical/ventilating/lighting/equipment.
- 4、 Set up emergency exit and necessary risk-elimination area.

### 8.3 Personal protection equipment

**General requirement:**



**Eye protection:** Tightly fitting safety goggles (approved by EN 166(EU) or NIOSH (US)).

**Hand protection:** Wear protective gloves (such as butyl rubber) , passing the tests according to EN 374(EU), US F739 or AS/NZS 2161.1 standard.

**Respiratory protection:** If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full- face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges.

**Skin and body protection:** Wear fire/flame resistant/retardant clothing and antistatic boots.

**Other protection:** Smoking, eating and drinking are forbidden on the job site. Maintain good hygiene habits.

## 9、 Physical and chemical properties

**Appearance:** Blue plastic case.

**Odor:** Weak odor.

**Odor threshold:** No data available.

**PH value:** No data available.

**Melting point/freezing point (°C) :** No data available.

**Initial boiling point and boiling range (°C) :** No data available.

**Flash point (closed cup, °C) :** No data available.

**Evaporation rate:** No data available.

**Flammability (solid or gas) :** Non-flammable.

**Explosion upper/lower limit [% (v/v)]:** No data available.

**Vapor pressure (kPa) :** No data available.

**Vapor density (air = 1) :** No data available.

**Relative density (water = 1) :** No data available.

**Solubility (mg/L) :** No data available.

**Octanol/water partition coefficient:** No data available.

**Auto-ignition temperature (°C) :** No data available.

**Decomposition temperature (°C) :** No data available.

**Viscosity:** No data available.

**Others:Resistance value:** No data available.

## 10、 Stability and Reactivity

**Reactivity :** Contact with incompatible materials can cause decomposition or other chemical reactions.

**Chemical stability:** stable under the correct conditions of use and storage.

**Possibility of hazardous reactions:** Reacts violently with oxidants, causing a risk of combustion explosion.

**Conditions to avoid:** Electrostatic discharge, heat, humidity, etc.

**Incompatible materials:** Strong oxides, strong acids, strong bases.

**Hazardous decomposition products :** Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11、 Toxicological information

### 11.1 Acute toxicity

Component	LD <sub>50</sub> (oral)	LD <sub>50</sub> (Transcutaneous)	LC <sub>50</sub> (inhalation, 4h)
All components	Not available	Not available	Not available

### 11.2 Carcinogenicity

Component	IARC	NTP
All components	Not Listed	Not Listed

### 11.3 Others

Component	Corrosive skin/irritation	Serious eye damage/irritation	Skin sensitization	Respiratory sensitization	Reproductive toxicity	Specific target organ toxicity - single exposure	Specific target organ toxicity - repeated exposure	Aspiration hazard	Germ cell mutagenicity	Reproductive toxicity
All components	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available	Not available

## 12、 Ecological information

### 12.1 Acute aquatic toxicity

Component	Fish	Crustaceans	Algae
All components	Not available	Not available	Not available

### 12.2 Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae
All components	Not available	Not available	Not available

### 12.3 Others

Component	Persistence and degradability	Bioaccumulation or bioaccumulation	Soil mobility	Evaluation of PBT and vPvB results
All components	Not available	Not available	Not available	Not available

## 13、 Disposal considerations

**Disposal considerations:** Recycle as much as possible. If it cannot be recycled, use incineration for disposal. Do not dispose of this product by means of discharge to the sewer.

**Waste chemicals:** Contaminated packaging: Residual hazards may still exist after the contents of the packaging are emptied. Keep away from heat and sources of ignition. If possible, recycle them to the supplier for recycling.

**Disposal considerations:** Refer to the "Disposal" section.

## 14、 Transportation information

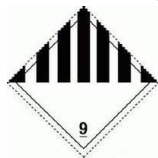
**United Nations Dangerous Goods Number (UN No.):** UN 3481

**UN proper shipping name:** LITHIUM ION BATTERIES CONTAINED IN EQUIPMENT or LITHIUM ION BATTERIES PACKED WITH EQUIPMENT (including lithium ion polymer batteries)



**UN Risk Classification:** 9

**Packing Category:** According to UN3481 requirements



**Packaging label:**

**Marine Pollutants (Yes/No):** No

**Packing method:** Pack according to the manufacturer's recommendations, for example: open drums. Ampoule bottle outside the ordinary wooden box. Threaded glass bottles, iron lids, glass bottles, plastic bottles or metal drums (cans) outside the ordinary wooden boxes.

**Transportation Note:** It is strictly prohibited to mix and transport with acids, alkalis, oxidants, foods and food additives. The exhaust pipe of the vehicle carrying this item must be equipped with a fire-retardant device, which prohibits the use of mechanical equipment and tools that generate sparks. Avoid exposure, rain, and high temperature during transportation. The tank (tank) used for transportation shall have a grounding chain, and a hole partition may be arranged in the tank to reduce the static electricity generated by the vibration.

It is strictly prohibited to mix and transport with oxidants, acids, foods and food additives. It is strictly forbidden to use wooden boats and cement ships for bulk transportation. Avoid exposure, rain, and high temperature during transportation. Transportation vehicles shall be equipped with fire fighting equipment and emergency response treatment equipment of corresponding types and quantities. Before shipping, check whether the packaging container is complete and sealed. On the transportation means, hazard signs and announcements should be posted in accordance with the relevant transportation requirements.

## 15、Regulatory information

### International chemical inventory

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AICS
Nickel compound	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Manganese compound	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Cobalt compound	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Styrene-Butadiene-Rubber	Not Listed	Listed	Listed	Listed	Not Listed	Listed	Listed	Listed
Polyvinylidene Fluoride(PVDF)	Not Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Aluminum Foil	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Copper Foil	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Carbon	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Electrolyte(Eth	Listed	Listed	Not	Listed	Not	Listed	Listed	Listed



ylene carbonate)			Listed		Listed			
Lithium hexafluorophosphate	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
Wireway	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
Double faced adhesive tape	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
Stainless steel, Nickel and inert materials & Others	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A

【EINECS】 European Inventory of Existing Commercial Chemical Substances

【TSCA】 United States Toxic Substances Control Act Inventory

【DSL】 Canadian Domestic Substances List

【IECSC】 China Inventory of Existing Chemical Substances

【NZIoC】 New Zealand Inventory of Chemicals

【PICCS】 Philippines Inventory of Chemicals and Chemical Substances

## 16、Others

### 16.1 Reference:

【1】 IPCS: The International Chemical Safety Cards (ICSC) , website: <http://www.ilo.org/dyn/icsc/showcard.home>.

【2】 IARC, website: <http://www.iarc.fr/>.

【3】 OECD: The Global Portal to Information on Chemical Substances, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en).

【4】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.

【5】 NLM: ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>.

【6】 EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.

【7】 U.S. Department of Transportation: ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.

【8】 Germany GESTIS-database on hazard substance, website: <http://gestis-en.itrust.de/>.

### 16.2 Others:

#### 1、Abbreviations and acronyms

CAS –Chemical Abstracts Service

DNEL - Derived No Effect Level

LC50 - Lethal Concentration 50%

PBT - Persistent, Bioaccumulative, Toxic

IMDG-International Maritime Dangerous Goods UN-The United Nations

NFPA-National Fire Protection Association

CMR - Carcinogens, mutagens or substances toxic to reproduction

PC-TWA - Time Weighted Average IARC - International Agency for Research on Cancer

PC-STEL- Short term exposure limit

RPE - Respiratory Protective Equipment

NOEC -No Observed Effect Concentration

BCF - Bioconcentration factor (BCF)

PNEC –Predicted No Effect Concentration

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ICAO/IATA-International Civil Aviation Organization/International Air Transportation Association

ACGIH-American Conference of Governmental Industrial Hygienists

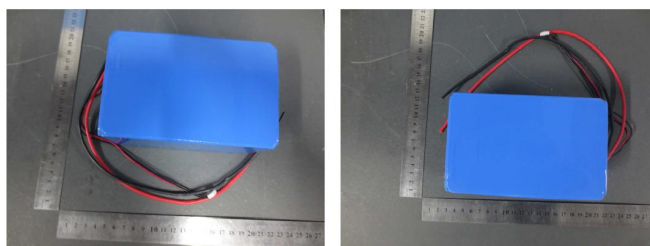
OECD-Organization for Economic Co-operation and Development

**2、Disclaimer**

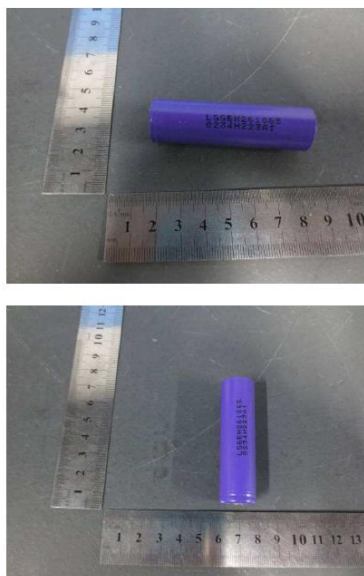
This Safety Data Sheet (SDS) was prepared according to UN GHS (the 7th revised edition). The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user’s reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

**Sample Photo**

Battery/电池 (FH2410 25,2V 10,4Ah 262,08Wh)



Inner Cell/内部电芯 (LGGBM261865 3,6V 2600mAh )



\*\*\*\*\*END\*\*\*\*\*

**SDS Creation Date: 2019/08/09 (valid for one year)**

