



Technical Report No. 68.413.17.0002.02A  
Dated 2017-02-09

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# Safety Data Sheet

Regulation (EC) No 1907/2006 (REACH) &  
COMMISSION REGULATION (EU) 2015/830

<b>Applicant</b>	BMZ Company Limited
<b>Address</b>	Room 101, 401, 501 , Floor 2-3, 2nd building, No.2 Jinlong Street, Baolong Industry Zone, Longgang, Shenzhen, Guangdong, PR.China
<b>Attn.:</b>	Ms. Jenny Gong
<b>Sample Description:</b>	Li-ion Battery
<b>Model No.:</b>	107513
<b>Manufacturer:</b>	BMZ USA Inc
<b>Address:</b>	2656 Lishelle Pl Virginia Beach, VA 23452
<b>Tel#:</b>	(757) 821-8494

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**SECTION 1: Identification of the substance /mixture and of the company/undertaking**

**1.1. Product identifier**

Product Name: Li-ion Battery  
Brand /  
Model No.: 107513  
REACH registration No.: Not applicable

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

Recommended Use: Battery  
Uses advised against: No information available

**1.3. Details of the supplier of the safety data sheet**

Manufacturer: BMZ USA Inc  
Address: 2656 Lishelle Pl  
Virginia Beach, VA 23452  
Tel#: (757) 821-8494

**1.4. Emergency telephone number**

Emergency Phone: 86-0755-89775803

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

Not classified.

**2.2. Label elements**

Symbols/Pictograms No pictogram is used.  
Signal word No signal word is used.  
Hazard Statements Not classified.  
Precautionary Statements Not classified.



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2.3. Other hazards

No information available

**SECTION 3: Composition/information on ingredients**

3.1. Mixture

Composition for Lithium ion cell (Model: ICR18650)

Chemical Name	EC No	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Metal oxide	-	-	40-45	Not classified
Carbon	231-153-3	7440-44-0	10-30	Not classified
Electrolyte	-	-	10-20	Not classified
Copper	231-159-6	7440-50-8	2-10	Not classified
Aluminum foil	231-072-3	7429-90-5	2-10	Flam. Sol. 1 (H228) Water-react. 2 (H261)
Ethylene carbonate	202-510-0	96-49-1	5	Not classified
1,1-Difluoroethylene polymer	-	24937-79-9	<5	Not classified
Polypropylene	618-352-4	9003-07-0	3	Not classified



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## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General advice

No special technical protective measures are necessary. If symptoms persist, call a physician.

#### Inhalation

Not an expected route of exposure. If symptoms persist, call a physician.

#### Skin Contact

No special technical protective measures are necessary. If skin irritation persists, call a physician.

#### Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

#### Ingestion

Rinse mouth. Get medical attention. Never give anything by mouth to an unconscious person.

### 4.2. Most important symptoms and effects, both acute and delayed

Direct contact of internal electrolyte gel with eyes may cause severe burns or blindness.

Direct contact of internal electrolyte gel with the skin may cause skin irritation or damaging burns.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: No information available

### 5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating and toxic gases and vapors

### 5.3. Advice for firefighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.



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## SECTION 6: Accidental release measures

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

Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Remove all sources of ignition. Do not touch or walk through spilled material. Avoid contact with skin, eyes or clothing. Avoid breathing dust/fume/gas/mist/vapors/spray. Use personal protection recommended in Section 8.

### 6.2. Environmental precautions

Local authorities should be advised if significant spillages cannot be contained. Prevent entry into waterways, sewers, basements or confined areas.

### 6.3. Methods and material for containment and cleaning up

Pick up and transfer to properly labeled containers.

### 6.4. Reference to other sections

See Section 7 for more information  
See section 8 for more information  
See section 13 for more information

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Take precautionary measures against static discharges. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Use personal protection recommended in Section 8.

### 7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place  
Keep away from heat  
Keep locked up and out of reach of children  
Keep away from food, drink and animal feeding stuffs  
Store in accordance with local regulations

### 7.3. Specific end use(s)

Apart from the uses mentioned in SECTION 1.2 no other specific uses are stipulated.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

Ingredients with limit values that require monitoring at the workplace:

Chemical Name	Australia	Austria	Belgium	Denmark	European Union
Carbon (CAS #: 7440-44-0)	-	TWA: 5 mg/m <sup>3</sup>	-	-	-
Copper (CAS #: 7440-50-8)	1 mg/m <sup>3</sup> 0.2 mg/m <sup>3</sup>	STEL 4 mg/m <sup>3</sup> STEL 0.4 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>	-	TWA: 1.0 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>	-
Aluminum foil (CAS #: 7429-90-5)	10 mg/m <sup>3</sup> 5 mg/m <sup>3</sup>	STEL 20 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup>	-	TWA: 5 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup>	-

Chemical Name	Latvia	France	Finland	Germany	Italy
Copper (CAS #: 7440-50-8)	TWA: 0.5 mg/m <sup>3</sup> STEL: 1 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup> STEL: 2 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.01 mg/m <sup>3</sup> Ceiling / Peak: 0.02 mg/m <sup>3</sup> Ceiling / Peak: 0.2 mg/m <sup>3</sup>	-
Aluminum foil (CAS #: 7429-90-5)	TWA: 2 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	TWA: 1.5 mg/m <sup>3</sup>	TWA: 4 mg/m <sup>3</sup> TWA: 1.5 mg/m <sup>3</sup>	-
Polypropylene (CAS #: 9003-07-0)	TWA: 5 mg/m <sup>3</sup>	-	-	-	-

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Chemical Name	Poland	Portugal	Spain	Switzerland	Netherlands
Copper (CAS #: 7440-50-8)	-	-	-	-	TWA: 0.1 mg/m <sup>3</sup>
Aluminum (CAS #: 7429-90-5)	TWA: 2.5 mg/m <sup>3</sup> TWA: 1.2 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	TWA: 3 mg/m <sup>3</sup>	-

Chemical Name	Norway	United Kingdom	ACGIH TLV	OSHA PEL	NIOSH IDLH
Copper (CAS #: 7440-50-8)	TWA: 0.1 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup> STEL: 0.1 mg/m <sup>3</sup> STEL: 1 mg/m <sup>3</sup>	-	TWA: 0.2 mg/m <sup>3</sup> fume TWA: 1 mg/m <sup>3</sup> Cu dust and mist	-	IDLH: 100 mg/m <sup>3</sup> dust, fume and mist IDLH: 100 mg/m <sup>3</sup> Cu dust and mist TWA: 1 mg/m <sup>3</sup> dust and mist TWA: 0.1 mg/m <sup>3</sup> fume TWA: 1 mg/m <sup>3</sup> Cu dust and mist
Aluminum (CAS #: 7429-90-5)	TWA: 5 mg/m <sup>3</sup> STEL: 5 mg/m <sup>3</sup>	STEL: 30 mg/m <sup>3</sup> STEL: 12 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup> TWA: 4 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> respirable fraction	TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 15 mg/m <sup>3</sup> total dust (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 5 mg/m <sup>3</sup> Al Aluminum	TWA: 10 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable dust TWA: 5 mg/m <sup>3</sup> Al

**Derived No Effect Level (DNEL)**

No information available.

**Predicted No Effect Concentration (PNEC)**

No information available.

## 8.2. Exposure controls

### Engineering Controls

Ensure adequate ventilation, especially in confined areas.

### Personal protective equipment

<b>Eye/face protection:</b>	No special technical protective measures are necessary.
<b>Hand Protection:</b>	No special technical protective measures are necessary.
<b>Skin and body protection:</b>	No special technical protective measures are necessary.
<b>Respiratory protection:</b>	In case of insufficient ventilation, wear suitable respiratory equipment.

## 8.3. Environmental exposure controls

Avoid release to the environment.

# SECTION 9: Physical and Chemical Properties

## 9.1. Information on basic physical and chemical properties

Appearance	Solid
Color	Gray
Odor	Odorless
Odor Threshold	Not determined
pH	Not determined
Melting point/freezing point	Not determined
Boiling point / boiling range	Not determined
Flash point	Not determined
Evaporation rate	Not determined
Flammability	Not determined
Flammability Limit in Air	Not determined
Vapor Pressure	Not determined
Vapor density	Not determined
Density	Not determined
Relative density	Not determined
Bulk density	Not determined
Specific gravity	Not determined
Water solubility	Not determined
Partition coefficient	Not determined
Autoignition temperature	Not determined
Decomposition temperature	Not determined
Kinematic viscosity	Not determined
Dynamic viscosity	Not determined
Explosive properties	Not an explosive





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Oxidizing properties                      Not determined

**9.2. Other information**

Nominal voltage: 36V	Nominal voltage: 36V
Rated capacity: 12Ah, 432Wh	Rated capacity: 12Ah, 432Wh
Limited charge voltage: 42.2V	Limited charge voltage: 42.2V

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No information available.

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

None under normal processing.

**10.4. Conditions to avoid**

Heat, flames and sparks.

**10.5. Incompatible materials**

None known based on information supplied.

**10.6. Hazardous decomposition products**

None under normal use conditions.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

**Acute toxicity**

<b>Chemical Name</b>	<b>Oral LD50</b>	<b>Dermal LD50</b>	<b>Inhalation LC50</b>
Copper (CAS #: 7440-50-8)	> 2500 mg/kg bw(rat)	> 2000 mg/kg bw(rat)	=1.03 mg/L/4 h(rat)
Carbon (CAS #: 7440-44-0)	> 10000 mg/kg ( Rat )	-	-
Aluminum (CAS #: 7429-90-5)	> 15900 mg/kg bw(rat)	-	> 0.888 mg/L/4 h(rat)
Ethylene carbonate (CAS #: 96-49-1)	= 10 g/kg ( Rat )	> 3 g/kg ( Rabbit )	-
Polypropylene (CAS #: 9003-07-0)	>5 g/kg	-	-

**Skin corrosion/irritation**

Non-irritating to the skin.

**Serious eye damage/eye irritation**

No eye irritation.

**Sensitization**

No information available.

**Germ cell mutagenicity**

No information available.

**Carcinogenicity**

<b>Chemical name</b>	<b>European Union</b>	<b>IARC</b>
Polypropylene (CAS #: 9003-07-0)	-	Group 3

**Reproductive toxicity**

No information available.

**STOT - single exposure**

No information available.

**STOT - repeated exposure**

No information available.

**Aspiration hazard**

No information available.

**SECTION 12: Ecological information**

**12.1. Toxicity**

<b>Chemical Name</b>	<b>Algae/aquatic plants EC50</b>	<b>Fish LC50</b>	<b>Crustacea EC50</b>
Copper (CAS #: 7440-50-8)	0.031 - 0.054 mg/L/96h Pseudokirchneriella subcapitata static 0.0426 - 0.0535 mg/L/72h Pseudokirchneriella subcapitata static	1.25: 96 h Lepomis macrochirus mg/L LC50 static 0.3: 96 h Cyprinus carpio mg/L LC50 semi-static 0.8: 96 h Cyprinus carpio mg/L LC50 static 0.112: 96 h Poecilia reticulata mg/L LC50 flow-through 0.0068 - 0.0156: 96 h Pimephales promelas mg/L LC50 0.3: 96 h Pimephales promelas mg/L LC50 static 0.2: 96 h Pimephales promelas mg/L LC50 flow-through 0.052: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	-

**12.2. Persistence and degradability**

No information available.

**12.3. Bioaccumulative potential**

No information available.

**12.4. Mobility in soil**

No information available.

**12.5. Results of PBT and vPvB assessment**

No information available.

**12.6. Other adverse effects**

No information available



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**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

Waste from residues/unused products	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.

**SECTION 14: Transport information**

- 14.1. UN Number 3480
- 14.2. UN Proper shipping name LITHIUM ION BATTERIES (including lithium ion polymer batteries)
- 14.3. Transport hazard class(es) 9
- 14.4. Packing Group
- 14.5. Environmental hazards Not regulated
- 14.6. Special precautions for user No information available
- 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code Does not apply

**SECTION 15: Regulatory information**

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

**European Union**

Component	EINECS/ELINCS	SVHC candidates	RESTRICTIONS - REACH TITLE VIII
Carbon 7440-44-0 ( 10-30 )	X	-	-
Copper 7440-50-8 ( 2-10 )	X	-	-
Aluminum foil 7429-90-5 ( 2-10 )	X	-	-
Ethylene carbonate 96-49-1 ( 5 )	X	-	-

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Take note of Directive 94/33/EC on the protection of young people at work

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work

**International inventories**

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch  
 TÜV SÜD Group  
 Building 12&13, Zhiheng Wisdomland Business Park,  
 Nantou Checkpoint road 2,  
 Shenzhen 518052, P. R. China

Tel.: (86) 755 88286998  
 Fax: (86) 755 88285299

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Component	TSCA	DSL/NDSL	ENCS	IECSC	KECL	PICCS	AICS
Carbon 7440-44-0 ( 10-30 )	X	X	-	X	X	X	X
Copper 7440-50-8 ( 2-10 )	X	X	-	X	X	X	X
Aluminum foil 7429-90-5 ( 2-10 )	X	X	-	X	X	X	X
Ethylene carbonate 96-49-1 ( 5 )	X	X	X	X	X	X	X
1,1-Difluoroethylene polymer 24937-79-9 ( 5 )	X	X	X	X	X	X	X
Polypropylene 9003-07-0 ( 3 )	X	X	X	X	X	X	X

**15.2. Chemical safety assessment**

No information available

**SECTION 16: Other information**

**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

Key or legend to abbreviations and acronyms used in the safety data sheet

**TWA** - TWA (time-weighted average)

**STEL** - STEL (Short Term Exposure Limit)

**Ceiling** - Maximum limit value

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**Test result according to Recommendations on the Transport of Dangerous Goods, Manual of Test and Criteria, Part III, subsection 38.3 (ST/SG/AC.10/11/Rev.5 Amendment 1 and Amendment 2)**

The battery samples pass all of the requirement test items.

**Full text of H-Statements referred to under section 3**

H228 - Flammable solid.

H261 - In contact with water releases flammable gases.



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**Disclaimer**

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